THE

GENESEE FARMER,

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A MONTHLY JOURNAL DEVOTED TO

AGRICULTURE & HORTICULTURE,

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH ENGRAVINGS OF

FARM BUILDINGS, IMPLEMENTS, DOMESTIC ANIMALS,

FRUITS, FLOWERS, SHRUBS, &c.

EDITED BY

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THE GENESEE FARMER.

Agriculture is the most Healthy and Honorable, as it is the most Natural and Useful pursuit of Man.

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THE FARMER TO ITS FRIENDS—THE NEW YEAR.

At the commencement of a new year—a new era in our lives—it is not unprofitable to look back upon the past—to note its teachings—to call to mind its lessons of instruction. Too apt are we, in looking forward to the future, to forget the past—to neglect its warnings. It has been said that man needs to live one life to learn *how* to live. Can we not learn in one year how to live the next? Who can look back even upon the past year, without remembering many things neglected that should have been done—many things done that should not have been—still many more that might have been better done. The wasted time—the misspent moments—how large an account they roll up against us at the end of each year. A moment lost can never be recovered, but we can take heed for the future—we may learn to improve the moments as they fly. There is no fitter time than this to think of these things. There is no better time for young farmers (yea, for old as well as young,) to improve their minds, than during the long winter evenings. If we stand at the base and look up the hill of science, it indeed looks formidable. Its sides are steep and rugged—its summit almost inaccessible. But, take courage and ascend a little way, and the distance to the top is lessened—the work accomplished is less difficult than was anticipated. The path that seemed so rugged as almost to frighten us from all attempts, has become smooth—the hard road is comparatively easy. The success of the past gives courage and strength for the future. As we look abroad from the position already gained, a new world is open before us—a new creation is presented to our view. That which was once a strange language is now become familiar as household words. We now see beauty and design where before we saw no beauty—nothing to attract our attention. We now hold converse with nature, for we have learned its language. The rocks, the trees, the insects, speak to us of their age, construction, and destiny. The broken rock that once we would have passed unnoticed, is now examined; and it affords food for thought—we trace in it the leaf or the insect, and thus learn that it once belonged to the vegetable or animal world. Science teaches that this rock is crumbling and forming soil—that it contains elements that assist in forming bread and supporting life. From this position the student of nature beholds the power of the Creator as wonderfully displayed in the construction of the smallest insect, as in man. He learns, too, the matter and composition of the various plants, and what is necessary to their support.

We do not suppose that farmers can gain that eminence in science which men attain whose whole lives are devoted to study and investigation. But, we can all learn enough to understand the writings, and apply what is valuable in the discoveries of these men. We can all learn enough to enjoy the glorious "feast of reason" which a bountiful Providence has provided for us. A little determination—a little application is all that is necessary. Good books are now published very cheap, and can be obtained, we think we may safely say, by all. The *want of time*, that old excuse, is about worn out; it has acted its part—served as an excuse for the idle long enough, and all are now ashamed of it; so let it die.

In the pages of the Farmer, while we have endeavored to urge the importance of science to agriculture, we have not forgotten the necessity of heeding the teachings of experience. More than one half of our pages each month are filled with articles written by farmers who hold the plow and swing the scythe. The aversion farmers have felt to giving the results of their observation and practice on paper, is fast passing away, and now, instead of lacking such practical articles, we often have to defer some, and even then find ourselves almost crowded out. But of this we do not complain. We are willing to be crowded even into silence, if farmers will take the work into their own hands. No man, of even common observation, can labor on a farm for years, without noticing some fact in regard to crops, or weeds, or soil, or stock, of importance to those engaged in the same profession. Farmers know this, and feel the importance of the facts thus learned, as is shown by the willingness with which they communicate them to their neighbors. If farmers meet at each other's houses, or travel together to market, they discuss these questions. If you have learned anything of importance, you can talk through the farmer to a hundred thousand at once. Certainly a large and respectable audience. If any matter is stated contrary to the experience of any of our readers, a reply will soon be furnished; and thus, by bringing the minds of farmers, with their experience, in contact, we learn the facts, and are prevented from rashly jumping at conclusions.

We never commenced a volume of the Farmer under more favorable auspices, never with as much confidence in our ability to furnish a paper worthy

the support of the farmers of the country. In addition to our ordinary facilities, during the coming spring we shall attend the *Great World's Fair*, and also make a tour of Great Britain and some portions of the Continent; and we hope to be able to communicate many things of value. It is our intention to make the account of our travels at once interesting and profitable to all our readers. We design to do our part, and do it WELL. It only remains for our friends to do their duty—to urge the claims of the GENESEE FARMER upon the attention of their neighbors, to make our paper what we intend it shall be—the most widely circulated, and the most useful agricultural journal in the country. To accomplish this, we shall spare neither money nor labor, and we ask the hearty co-operation of our friends. The cost is but trifling—every farmer and every farmer's son can afford to take the Farmer.

PARASITIC FUNGI OF THE FARM.

THIS class of plants has given rise to more disputes among practical farmers, than all others put together. Availing ourselves of an admirable lecture by the Rev. EDWIN SIDNEY on the "Parasitic Fungi of the British Farm," published in a late number of the Journal of the Royal Agricultural Society, with illustrations, we hope to make this subject plain to the understanding of every reader.

The word "parasitic" means something that lives at the expense of another plant or animal. Parasitic plants, however, can subsist on decaying or dead vegetables and animal substances, as toadstools grow on a dung heap, and mould in cheese.

Fungi is the plural of *fungus*, which is a *cellular* plant, *i e.*, one whose juices circulate through innumerable little cells, the sides of which are pervious to water, and not through vessels or minute tubes, as in *vascular* plants. Fungi have no flowers, live partly on air, and are farther nourished through a *stalk*, *stem* or *spawn*. Their minute seeds are called *spores* or *sporules*, which are never of a green color, and are either naked or enclosed in skinny cases, termed *sporidia*, or *spore-cases*.

Spores mostly germinate either by the protrusion of the inner membrane, or by a lengthening of the outer covering; and the *spawn* is the development of these spores, imparting to them the power of imbibing nutriment from the *matrix*, and of growing. The spawn of the common mushroom can be made to extend on glass in a way to show its development in a satisfactory manner. *Fungals* most commonly grow on animal or vegetable substances in a state of decomposition; but many of the simplest organization attack tissues which to all appearance are sound and healthy, and eventually destroy them.

FIG. 1.

The simplest form of a *fungus* is common mouldiness, which has two types. The first, as may be seen by the aid of a good microscope, is composed of *jointed threads* made up of simple cells placed end to end, which often separate and seem capable of reproduction. This is represented in Fig. 1, where the cells may be seen as described.

In the second form, the cells are less distinctly marked, and assume a thread-like appearance, bearing spores at their extremities, and having numerous short branches, as is shown in Fig. 2. The study of the cells of different plants is exceedingly interesting. We have before us the work of MULDER on the Chemistry of Vegetable and Animal Physiology, in which this subject is discussed at length, with much acuteness and patient scientific research. At another time we may copy some of his admirable drawings, finely illustrating how plants and animals grow.

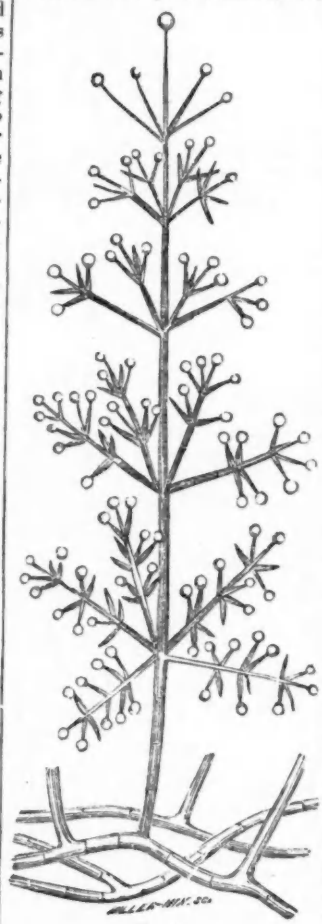


FIG. 2.

Mould on stale milk, and mildew in damp clothes, are among the simplest forms of vegetable life. In a higher state, *fungi* takes a determinate figure, formed of a mass of cellular tissue, the entire centre of which is all spores, as in the case of a common *puff-ball*. The most completely formed *fungi* have two distinct surfaces, one of which, (usually the uppermost) is smooth and without any opening; the other like the under side of a mushroom, is divided into thin plates called the *hymenium* or gills, to which the spores are attached, generally four together, as seen in Fig. 3. Upon differences of structure depend the various attempts at botanical arrangement. This class of plants is quite numerous.

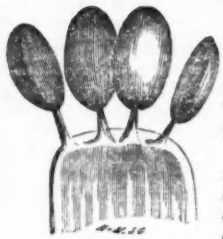


FIG. 3.

The seeds or spores of fungi are so small and incalculable in number, that it is difficult to conceive a place on the surface of the earth where they may not be present. They have been not inaptly called "the scavengers of nature." Some fungi are eatable, others poisonous; some medicinal, others intoxicating; and many are luminous, lighting up, by their phosphorus, the mines and caverns in which they grow.

The stems, leaves, and seeds of cereals are much subject to attacks from parasitic fungi, particularly

mildew, called by botanists *puccinia*, and *rust*, called *uredo*, of which *smut* is a variety. Mildew was very destructive to the wheat crop of England in 1804, when this parasite was critically studied by Sir JOSEPH BANKS, who made microscopical drawings of the same, which are preserved in the British Museum. Since then, this class of plants has commanded considerable attention in all civilized nations.

FIG. 4.

Fig. 4 represents the common appearance of mildew, the straw is a little magnified. Its appearance under a first rate modern microscope is shown in Fig. 5, where the dusty patches are crowds of club-shaped fungi (spores.)

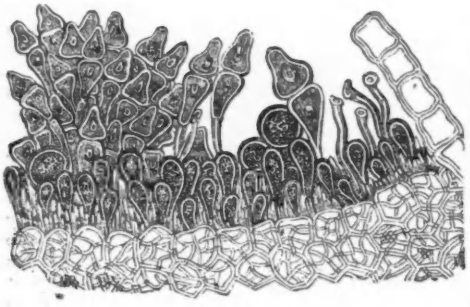


FIG. 5.

The thicker end of each is divided into two chambers that contain the reproductive *sporules*. These lift up the *epidermis*, (skin,) which is ruptured, and millions of seeds are scattered far and wide by the air and wind. Whether they pass with atmospheric air through the pores (*stomata*) in the leaves of wheat plants, or though the apertures in their roots, or both, botanists are not agreed. That the spores of fungi exist in the fluids or sap of cereal plants, has been demonstrated; but how they got there is not well settled. They often grow on the moist covering of the stems of grain and grass. There is a fungus that attacks only the joints of wheat, called *diapaza*, and still another of the mildew tribe, of a black color, which is said never to attack wheat till it is previously diseased. This, as well as *uredo rubigo*, and *uredo fetida*, (red rust and smut,) will be described and illustrated in our next.

PROPER TIME FOR FELLING TIMBER.

MR. WILLIAM PAINTER, of Concordville, Pa., in a letter written for the Patent Office Report, says: "During an experience of more than forty years as a plain practical farmer, I have taken much interest in ascertaining the best season for felling timber; and I now state, with much confidence, that fencing timber, such as all kinds of oak, chestnut, red hickory, and walnut, cut from the middle of July to the last of August, will last more than twice as long as when cut in winter, or common barking time in spring. For instance, cut a sapling, say five or six inches in diameter, for a lever, in the month of August, and another of a similar size and quality, in winter or spring, and I *know* that if the first is stripped of its bark (which at that time runs well) it will raise as a lever, at least *twice* the weight that can be raised by the latter."

Statements like the above, made by reputable men who can have no motive to misrepresent facts, are always entitled to a respectful consideration. Why should a green "sapling, six inches in diameter, cut in August," be any stronger after it is well seasoned, than it would be if cut in winter or spring?

While we doubt the fact of the difference being so great as Mr. PAINTER thinks that he has good reason to believe it to be, we do not question that there is *some* difference. The woody fibres of the tree are the same in August and in winter and spring: the new layer of wood, *alburnum*, is thin and comparatively small, and most of this is deposited before August. The proportion of sap or water in a green tree, varies but little in different seasons of the year, as compared with its dry matter. What, then, is the exact difference in timber in autumn and in spring, after a tree has put forth its leaves, and its terminal branches are rapidly extending by the deposition of new wood? When is the matter organized which flows as *sugar* dissolved in water, from the sugar-tree in the spring, before even the buds begin to swell? In what condition, and in what place does this saccharine substance spend the time from autumn till March? MULDER, in his valuable work on the "Chemistry of Vegetable and Animal Physiology," says that all sugar is first formed into starch from carbon and water; and that it is from this starch that both sugar and new wood, in spring, are produced. We are aware that other chemists have taken a different view of this subject, but we believe that MULDER is right. We know that fat in animals is a sort of storehouse of fuel which the animal can burn when its food is lacking or deficient to maintain vital warmth. Potatoes, and many other plants possess unequal quantities of starch at different periods and under different circumstances. A green sapling in the spring, has all its starch and *albumen*, or the raw material for making a vast number of leaves, much new wood, and its tissues, in which nitrogen is consumed, taken out of its trunk and distributed in thousands of branches, and in terminal buds. That the trunk should be a little weaker when thus deprived of all of its soluble solids, is no more than we might reasonably expect. To transform starch, which is insoluble, into soluble dextrine, sugar or gum, is the effect of the first warmth of spring, or winter, for in many States maple sugar is made in January and February.

If the above view of this interesting question is founded on true phisiological principles, as we believe it is, then the best time to fell a tree is after it has ceased to grow in autumn, and prepared, like a fat bear in the fall, a good supply of starch and of nitrogenous compounds, in all its sap-tissues, for use when it is ready to put forth a new covering of luxuriant foliage. There is strength in the elements of forest leaves, and these elements while deposited in the cells of sapwood, if dried therein, increase its durability. Dry rot is a fungus which destroys a great deal of ship and other timber. Whatever operates to exclude atmospheric air, tends to prevent this malady. Several minerals, like copperas, corrosive sublimate and blue vitriol, will kill the fungus called "dry-rot." Exclude oxygen from wood and it cannot decay. Painting preserves it on this principle.

A HAND, in measuring height of horses, is four inches.

A NATIONAL POISON.

UNDER this heading, the editor of the "Horticulturist" writes a leader of five and a half pages in length, which appears in the November number of that journal. After an extended and grandiloquent introduction, the case is thus stated:

> The national poison that we allude to, is nothing less than the vitiated air of *close stoves*, and the unventilated apartments which accompany them. "Stoves," exclaim a thousand voices in the same breath, "stoves poisonous? Nonsense! They are perfectly healthy, as well as the most economical, convenient, labor-saving, useful and most indispensible things in the world." We grant it all, good friends and readers, but must also have our opinion—our calmly considered, and carefully matured opinion—which is nothing more nor less than this, that stoves, as now used, are a national curse—the secret poisoners of that blessed air bestowed by a kind Providence, as an elixer of life, giving us new vigor and fresh energy at every inspiration, and we ungrateful beings, as if the pure breath of heaven were not fit for us, we reject it, and breathe instead—what?—the air which passes over the surface of hot iron and becomes loaded with all the vapor of arsenic and sulphur, which that metal, highly heated, constantly gives off!

From the above, the reader will see that the editor of the "Horticulturist" disagrees with Hudibras, who taught—

> "What dreadful perils do environ
> The man that meddles with *cold* iron."

It is "*hot* iron" that "constantly gives off vapors of arsenic and sulphur."

Suppose a stove were made exclusively of arsenic and sulphur, or of any other combustible substance; how long would the stove stand heating before, like a wooden one, it would all be dissipated in gas and vapor? Probably not one part in ten thousand of the metal in a stove is arsenic or sulphur; and if this minute quantity is "*constantly given off*" when heated, it is obvious that a few hours will suffice to consume the whole of these really combustible minerals. If they are in a condition, by their intimate association with iron, to be involatile, then it is equally plain that no poisonous vapors can be "given off." It would be as reasonable to say that, an ounce of coal can be forever burning in a stove and "constantly giving off vapor" and carbonic acid, and yet never be consumed!

If stoves were not in general use, and whatever affects the public health were not of universal interest, we should not have deemed it worth while to expose the grave error of this "calmly considered and carefully matured opinion," so confidently expressed.

The article contains several other "opinions" put forth with equally "calm consideration," which deserve correction. If the following be true, then our humble opinion is greatly at fault: "It is safe to say that nine-tenths of all the houses in the northern States, whether belonging to rich or poor, are entirely unventilated, and heated at the present moment by close stoves."

We know not what Mr. DOWNING regards as an "UNVENTILATED HOUSE;" but we have traveled a good deal in the northern States, from Massachusetts to Iowa, and if nine-tenths of the dwellings of country people are not sufficiently ventilated, then they must live in tents, for we have slept in many a house where one need not get out of his bed to count the stars, without the aid of a window. It is possible to make a room too tight for the health of its occupants; but that nine-tenths of all the houses in the northern or southern States are so constructed, is a great mistake. We write this paper in a building that cost over $460,000, which has thick walls, floors that rest on solid arches, and no room has other means of ventilation than common doors and windows. Each room is substantially a large stone oven, and yet so strong is the current of air that rushes in at the sides, top and bottom of every door, that the noise sounds like stage thunder. Not to be misunderstood, we repeat that rooms may be too close for health, and particularly small sleeping rooms, when neither door nor window is opened from nine at night till six in the morning. Proper ventilation is all-important; but one need not live out door, as some do in the main, to secure this advantage.

The editor of the "Horticulturist" speaks of close stoves as "little demons," apparently on the principle "give a dog a bad name, then kill him." Why is a "close stove" more injurious to the air of a room than an open one? Let us assume that the room is reasonably tight, *i. e.*, there is an average number of apertures around doors, windows, through cracks in plastered walls, and at the ends and sides of floors, both below and above, for ventilation.

The question is, which kind of stove, an open Franklin, or a close one, will consume the more oxygen in any given length of time? Clearly, the stove that burns the most wood will, in all cases, consume the most vital air, in its combustion. If no fuel is burned, then no oxygen is consumed in converting carbon into carbonic acid—that is plain. But it may be said that a close stove sends its carbonic acid into the room, while the open one sends this deleterious gas up chimney. This is the pith of all that is said against these "little demons." When coals are burnt in an iron kettle or furnace, in a close room, as has been frequently done, then all the poisonous gases are discharged into the atmosphere of the apartment, and a few have lost their lives by their ignorance. But anything worthy of the name of "stove," no matter how close it is, conducts the products of combustion out of the room; and nothing is plainer than the fact, that the less fuel it consumes, the less vital air is transformed into carbonic acid and lost. Heated iron consumes oxygen no farther than it is burnt, or oxidized, which in an iron stove is next to nothing, in the course of twenty-four hours. A room warmed entirely by hot iron, without any combustion, would be perfectly healthy, provided there was one aperture of reasonable size for the admission of fresh pure air. The impure air can and will pass out at the same opening. The idea that a room can only be ventilated, properly, by an open fire place of brick or iron on one side of it, and a door open on the other, with a strong current of air passing up the chimney, is a mistake. Any place large enough for air to pass into a room, is large enough for it to go out again. In case the walls, floors, windows, and doors of a room are very tight, some opening, made expressly for ventilation, should be provided. This is done by valves, and apertures through floors, bottom and top, through doors or windows, or from the room into the chimney. In case a dwelling is two or three stories, and warm rooms are needed on each floor, there is considerable economy in using a furnace in the basement, and warming every room by pure, and duly moistened, heated air. There is need of improvement in the every day business of keeping rooms neither too cold nor too hot, and the air never too dry nor impure. Thousands take cold and get sick, by sitting or sleeping in currents of cold, and often damp, air. All extremes in shutting out air, and letting it in, are to be

avoided. Mrs. HAMILTON, relict of ALEXANDER HAMILTON, and daughter of Gen. SCHUYLER, now in her ninety-sixth year, enjoys good health by avoiding the extremes to which we have alluded.

All that Mr. DOWNING has so well said in favor of ladies and gentlemen, or persons of both sexes, taking exercise regularly in the open air, by riding, walking, or working, we fully endorse. Hot-house plants, and pale, enervated children, men and women, may do for a poor show, but nature owns them not. We are deteriorating our race by the intensity of our laziness, artificial stimulants, and ridiculous contrivances for doing nothing. We hold that it is the duty of all, not only to take daily exercise, but to perform *useful labor*. No intelligent and healthy person can be regarded as innocent, that has an opportunity to work, and fails to produce an equivalent for all that he or she consumes. If one family may rightfully live without any sweat of the face, all may, by the same rule. Idleness is a wrong done to the whole community, and to several generations; and the greater the number of idle persons, the greater the injury. We deliberately manufacture three-fourths of the diseases and paupers that exist in society and profess to believe that it is all right, wise and proper. We rejoice that the U. S. census of 1850 has signalized the middle of the 19th century, by making a record of all births and deaths throughout the whole Union, in the twelve months preceding the first of June or July. The study of the causes of mortality, in their connection with the occupations of men, modes of living, construction of dwellings, proximity to marshes and other stagnant waters, over thirty-one States, presents many points of deep interest. Science, taking a loftier position, will undertake to *prevent*, rather than *cure*, most of our afflictions.

PROFESSOR JOHNSTON'S VIEW OF AMERICAN AGRICULTURE.

AT a meeting of the [illegible] of Berwickshire Farmer's Club, Professor JOHNSTON, recently returned from America, delivered the following address, which we copy from the London Farmer's Magazine:

I will briefly refer to some points which came under my observation in that part of the country which I visited. First of all, as to the state of agriculture in the northern parts of America, in our provinces, and in New England, with which we are ourselves more familiar, when I tell you generally that the state of agriculture in those parts of America is what the state of agriculture in Scotland probably was eighty or ninety years ago—and when I tell you that in some parts of New Brunswick they are very nearly in the precise condition in which Scotland was one hundred and twenty years ago, you will have an idea of the state of agriculture in North America. The system of agriculture is no farther forward—it is exceedingly far behind. They are not even acquainted with the improved methods of farming, or the improved implements which are now in common use in this country; while the increased facilities which Mr. MILNE would still farther introduce, have never been heard of by them. Now, in regard to this state of things in the whole of the northern part of America, go as far west as you like, and as far south as you like, the same general description applies to the whole. Now, the next question is, how has this state of things been brought about? You are probably not so well acquainted with the state of agriculture in this country 100 or 120 years ago as I have found it my duty to make myself; and at the time to which I refer, I allude not only to the state of great ignorance in regard to the cultivation of the soil, but to the state of exhaustion in the soil itself. So in referring to the present state of agriculture in America, I refer to two considerations—the condition of mind brought to bear upon the cultivation of the land, and the state of the land itself. In regard to the cultivation of land in America, its condition arises from a variety of causes, and a very few considerations will enable you to understand how it has come about. If you ask yourselves to what class does the majority of emigrants belong, you will have no difficulty in coming to a conclusion. Look at the great crowds of people who go from Ireland, from the Highlands of Scotland, and the hundreds of thousands proceeding from the great towns of England and Scotland—ask yourselves of what class they consist—what amount of intelligence and agricultural knowledge they possess; in the answer to this you will at once find the key to the state of the land in the whole northern part of America. The people who first settled in America knew nothing of agriculture, and their descendents have generally copied the habits of their predecessors. Thus it came that their sons knew nothing—out of the way of books, out of the way of instruction, supposing them even to have read books, they would have made very little progress; but we must suppose them not to have had an opportunity of gaining knowledge, and therefore instead of advancing, *they have retrograded in agricultural knowledge and practice*. Now, what has been their procedure—by what kind of procedure have they brought about the state of exhaustion to which the soil has been reduced? Of course, in speaking of the exhausted soil, I do not refer to the virgin soil which has never received the plow or the spade; but to the soil under their cultivation, and which they are now exhausting. When I tell you how the land is cultivated, you will understand how this exhaustion has been produced. The forest is in the first place cut down and burnt, after which the ashes are scattered, and a crop of wheat and oats is sown. When this crop is cut down, another is sown; but they do not always remove the straw—they do not trouble themselves with any manure. The second year they sow it again and harrow it, and generally take three crops in succession. When they can take no more out of it, they either sow grass seeds, or as frequently leave it to seed itself. They will then sometimes cut hay twelve, fourteen, sixteen, eighteen, or twenty years in succession—in fact as long as they can even get half a ton an acre from it. And you may suppose what is the natural fertility of the land, when they are able to obtain as much as three or four tons per acre at first, and go on cutting it for twelve years. They will probably have two tons an acre during all that length of time. The land is then broken up and a crop of oats taken, then potatoes, then a crop of wheat, and then hay for twelve years again; and so the same course is repeated. Now this is the way in which the land is treated—this is the way in which the exhaustion is brought about. This exhaustion exists in Nova Scotia, New Brunswick, Lower Canada, in Upper Canada to a considerable extent, over the whole of New England, and extends even into the state of New York. The next inquiry which you will make is, what steps are they taking to remedy this state of things? Are they doing anything to bring back the land to a productive condition? and in order to do this are they taking steps to *put any knowledge into the heads of those who cultivate it*?

Now, on those points I am happy to say that I can speak very favorably. They possess the spirit of their forefathers, and having become conscious of the state in which agriculture really is, they are endeavoring to improve it. But you will ask what inducement have they to make these exertions? They grow corn enough,—they have no want of agricultural produce as we have; but when I tell you what is the condition of the New England states you will understand. All the new states—all the virgin land when it is cultivated yields a crop for little or nothing, but it can not by any means yield a large crop. In the State of Michigan, between Lakes Superior and Erie, the average produce is not twelve bushels an acre, but it is got for nothing. In New Brunswick, which is very thinly populated, I was told that ten bushels an acre paid well! but the produce is not large. In the western states they are able to produce it very cheaply.

Mr. HAY—What is the value of a bushel of wheat?

Professor JOHNSTON—At the time I was there the price varied from 61 to 80 cents a bushel, *i. e.* 100 cents being 4*s.* 6*d.* In the western states and part of New York, where it is shipped to England, the price varies according to the distance. Now, the condition of things in the western states in reference to England, is precisely the same as the condition of England in reference to the wheat-producing countries of the Baltic. The condition of the farmers is exceedingly bad; in Maine I was informed that they were *all* in a state of bankruptcy. The land is *all* mortgaged, which hangs like a millstone round their necks, and is worse even than the state of the farmers in this country. They are thus unable to com-

pete with the western parts of New York or Lake Ontario. You have all heard of the famous wheat of Genesee, where the land is more fertile than in any part of Great Britain; and I learned that they are laying the land down to grass, because they can not afford to grow wheat. As a remedy for this state of things, they are establishing agricultural societies in the different states, and the legislature is providing funds to support these societies, and for the diffusion of knowledge. The central society is in Albany, and to it the different branches send reports. The Legislature publishes these in one thick volume, and circulates 20,000 copies gratuitously *throughout the states*. This central society asked me to give their annual address at Syracuse, and a course of lectures before the *Legislature* at Albany. These lectures are to form a part of this year's report; and the Legislature has resolved to print an additional 20,000 copies, making 40,000 altogether, and to circulate them *gratuitously through the several states*.

Let us now come to another point of great importance, and to which you would perhaps like me to advert, namely, agriculture in America. What influence will the growth of wheat in the states have upon us, or what influence is the progress agriculture consequent on this great desire for improvement, likely to have upon the state of agriculture in Great Britain? In New Brunswick, New England, and New York, the growth of wheat has almost ceased; and it is gradually receding further and further westward. Now, when I tell you this, you will see that what I believe to be the case, is really the case—that it will not be very long before America will be unable—in fact the United States are unable now—to supply us with wheat in any large quantity. If we could bring Indian corn into general use, we might get plenty of it; but I do not think that the United States need be any bugbear to you. I believe the great source of competition you will have to contend with is the Baltic and the countries on the borders of the Black Sea. Now, in regard to the other point, namely, what effect will the desire for improvement in agriculture have upon the agriculture of this country, it ought to stimulate us to so still greater exertions. Sure I am, that with proper exertions *we will always keep ahead of them*. There is as good blood in this country as ever went out of it. I hope English and Scotch heads and hearts will not become languid and dull on a matter of such moment as this, but that we will continue to beat them, as I am sure from what I have seen, that we are able. What the Americans are able to do well, we ought to do better. (The learned Professor sat down amid great applause.)

This address furnishes food for much serious reflection; and if it do not prompt our friends to make greater efforts for the advancement of American agriculture, we shall be both disappointed and mortified. In our next we shall review it at length. We have put the price of this journal at a mere nominal sum, that all may read it.

STATE AND PROSPECTS OF AGRICULTURE IN CALIFORNIA.

MUCH as has been written of California, yet but little is at present known of her agricultural character and capabilities. This matter has in a great measure been lost sight of, and yet it is a question of the highest importance to the welfare of this new State. Her surface may be covered with gold, and yet she can never become an independent and flourishing, or even a wealthy State, unless her soil is adapted to agricultural purposes. Without this, California will be but a poor dependent upon the older States—her population unsettled—enriching others at her own expense. It is with much pleasure we are enabled to give the following letter from an old friend, and we have no doubt it will be read with interest.

California—Its Agricultural Prospects—Its Soils—The Gold Region—Its Supposed Width.

IT requires no ordinary amount of courage, I was going to say effrontery, to undertake to write and pronounce opinions on a question so unsettled as the agricultural capabilities of California. Those who have heretofore given forth their dicta to the world, either in official reports or in books for sale, have too often had the mortification of finding themselves held up to ridicule, in California, for the gross errors with which their statements abound. The chief cause of the errors that have been honestly committed, have arisen from the want of correct data on which to form correct conclusions. The population of northern California are immigrants "but of yesterday," and know very little of the strange country in which they find themselves—a country in which the seasons vary so much as almost to persuade one to adopt the theory of the natives—that the Yankees are a wonderful people, they have brought a new climate with them to California.

Last spring, a year ago, "the oldest inhabitant" pitched his tent in this city, began clearing away the under-growth. To-day we have the certain experience of one year and a half. The two seasons differ from each other so widely as to pass for different climates. Had you asked this "oldest inhabitant" about the truth of the stories afloat, that Sacramento valley was subject to inundation, he would have told you that it was contrary to his experience; he would have told you that he passed the winter previous at the Fork, and this land was above the highest flood; and had you made all the inquiries that I did, you would doubtless have done as I did—go to bed, after looking at the rising waters. You would not believe, on the evidence before you, that in a single night the waters of a single river could flood so broad a valley to the heighth of your bedstead. But, contrary to the experience of "the oldest inhabitant," the floods came, and in one night the whole valley of the Sacramento, with the exception of a few isolated spots, was one continuous sheet of water. Had you asked this "oldest inhabitant" about the climate, he would have told you that the average temperature was over 100° during the summer last past, and he presumed it would be so this—sometimes running up as high as 128° in the shade. He would have told you that there were no rains from March to November, except a slight shower in June and another shower about the middle of October—and that it was a very sickly town. Had you compared his statements with your own experience for the present year, you would have found them totally incorrect. You would have found the heat never rising above 109° in the shade. You would have found the deaths less, in proportion to the number of inhabitants, than at home. You would have experienced no shower in June, but a heavy and continuous rain, like the commencement of the rainy season in September.

In May, you would have said there could be no agriculture, for the flood of that month would drown out all the seeds that should have been in the ground a month or more, and yet in August, you might have said that you had never eaten tomatoes so rich as those grown in this valley. In no country in the world has corn, potatoes, onions, beets, turnips, radishes, valparis (Valparaiso) squashes, reached a higher perfection, or exhibited a more luxurious growth, than in this valley, so far as one can judge from the specimens brought to market. And the wild grapes, too; no country can boast of more luxurious growth, or a more nutritious food for cattle, than the wild grape of California. The yield of wheat is most prolific.

The upshot of my own observations (and you must bear in mind that they are the observation of only a single year,) are, that those spots and portions of California susceptible of cultivation, grow all the above named agricultural productions to a higher state of perfection than I have ever before seen them. But how large a portion of California is susceptible of cultivation, can only be determined by the experience of several years. The system of cultivation, too, must be determined by a long series of experiments. The heavy plows used in our clay lands are not wanted in California. Light plows, something after the fashion of the gang plow, is all that is required to scratch over the surface of the ground to prepare it for holding the seed. The loose character of the earth for several feet deep, allows the roots to penetrate to an unusual depth, on their own motion, while the peculiar nature of the soil and the climate causes the deep plowed earth to dry up and become unproductive. In planting or sowing, regard must be had to spreading out vegetation, so as to cover the whole surface of the ground with a shade, otherwise the sun will parch it up and your crop will be spoiled.

You will see by these brief hints, that the system of cultivation to be pursued in California, must be entirely different from our previously conceived notions. And then, too, the chemical combinations of the soils are so extraordinary as to suggest the propriety of placing agricultural chemistry at the head of the sciences to be taught in California.

At the risk of being tedious, I will add something of the

general features of the country. The valley lands, from the few observations made, would seem to be underlaid with a bed-rock, not many feet below the surface, but yet varying considerable at different points. This rock is overlaid with a "hard pan," so compact as to hold the water of the early rains in the superincumbent soil. From the hard-pan, upwards to the surface, the earth is of so loose a character, that I cannot better describe it than by comparing it with leached ashes. The first heavy rains that fall make the roads impassable for teams; and as the water rises in the rivers, you find that the water rises to the same level, and at the same time, in the wells and sloughs, and when the waters have nearly reached the surface, there is a difficulty which the pack mules have to encounter in crossing the valleys, called *stumping*. This earth contains an unusual amount of alkali, in solution, and would suggest the propriety of using lime as a manure. After the waters have abated, the sowing and planting season begins and you get in the seed with as little disturbance of the earth as possible, and as the dry season comes on, they take root downwards—and the roots do go down with a vengeance. In witnessing the digging of a ditch on the *Rancho del Paso*, (the shepherd's farm,) I was astonished at the depth to which the grass roots penetrated this loose earth, and I thought then, and think still, that the peculiar character of the grasses of California, to some extent, was owing to this fact. These disjointed remarks may not be universally true, but they may serve as a general outline of the valleys of Sacramento, Napa and San Hosa, (San Jose) so far as I have had opportunities to examine. But when you leave the valley of Sacramento, which varies from ten to fifty miles in width, you enter a rolling land covered, like the plains, with straggling oaks, which appears to be a sort of neutral ground.

But after crossing this, you enter the gold bearing region —a region as distinctly marked, and as different in its general characteristics from the country you have just left, as "chalk is from cheese." The country, everywhere, begins to assume a barren look, the dwarf mountain pines here first make their appearance, and in those portions of this gold bearing region the strata of rock protrudes from the earth in a shattered condition, and when they are of a secondary formation, the strata stands perpendicular to the earth, and with a surprising uniformity extend north and south. But the whole of the rocky formations, whether primitive or secondary, as far as my superficial observation goes, bear strong marks of some convulsion of nature, which has shivered them into fragments. The great discovery of this year is one that has been made at a sore cost to the miners, viz.: that this region of gold has a clearly defined limit towards the mountain, as well as towards the plain. That there is a point upon the side of the mountains, beyond which gold is not found in considerable quantities, upon the streams at least, is now admitted generally; but the theories about it differ, and none are without exceptions. The more common is, that the gold-bearing region passes under the mountains and comes out again to the surface on the opposite side, where diggings of the same character as in this valley are found, as at Carson. Another, that the gold being washed down from the higher regions of the mountains, embedded in large masses of earth, which masses of earth are, by the violence of the waters of the mountain torrents, broken into fragments, and the gold, from its great specific gravity, precipitated, in its voyage down the stream on its frail earthen supports. A third is, that the gold lies in strata, or leads, and like the rocks, crosses the water courses, and while the earth around and over it is washed away, the great specific gravity of the gold makes it almost insensible to the action of the water. It is cited in support of this theory, that where rich deposits are found in the streams, oftentimes leads are found on either bank penetrating far beyond the reach of the alluvial deposit. And the Kiota (Coyote) diggings are also cited, where a shaft is sunk 60 or 100 feet into the solid earth, where there are no appearances of gold or of washings, and after the bed rock is struck, kiotas (the coyote is a prairie dog or fox,) are extended along the rock in every direction until a lead is struck, which is followed up as far as the lead is profitable. This is one way of coyotying; another is, following a lead from the surface.

But without stopping to discuss the relative merits of these theories, or whether there is not some truth in the theory that combines them all, we had better turn back to the subject of Agriculture, on which we at first set out. The first difficulty in the way of the successful prosecution of agriculture, is the difficulties attending the possession of lands. Before the conquest, the lands, being of little value, were possessed in large estates, with ill-defined boundaries, and no great regard was had to the perfecting of the title papers. The rewards of agriculture are so great, that men do not hesitate to lay out "preemptions" whenever the location pleases them, but as their right to the soil is very doubtful, their system of cultivation is of the most superficial kind. There is a continued war between the herdsmen (*Bocaros*) of the estate, and the squatters. The squatters are backed by the sympathies of the miners, who are at free quarters on government land, while the old land titles are supported by the holders of town lots. Of the parties engaged in the fight in our streets, one half, I should judge from their appearance, were volunteers from the country. All these things have a tendency to postpone any permanent agricultural improvements; nor is it probable that a settled and orderly state of society, so essential to the high development of the agricultural resources of the country, will for a long time be attained.

These are some of the "lets and hindrances," but, on the other hand, the price *by the pound* for everything which the country can produce, and the indomitable disposition of its new proprietors, will soon overcome these and a thousand other obstacles, and I doubt not, if Providence shall spare my life another year, I shall be able to send you a more detailed, and a more flattering account of the agriculture of California, and furnish some accurate statistics in relation to the much agitated question of the extent to which California is susceptible of cultivation. W.—*Sacramento City, Cal., Oct.*, 1850.

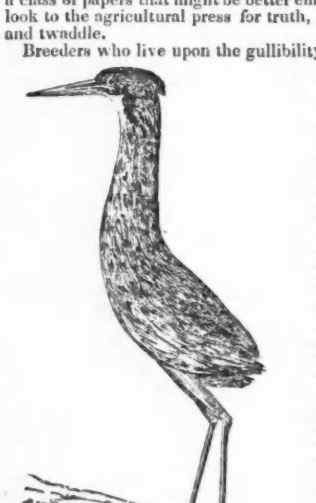
FARMERS, SAVE THE WASH OF THE BARNYARD.

Eds. Gen. Farmer:—Of all the waste of food for plants, permitted by the farmer, (as far as my experience extends,) this is the greatest. If I was to hazard a conjecture, I should say that one-half of the strength of manure is leeched out and washed away by rain. I may be a little too high in this estimate. I hope so. I will now propose three plans, by adopting either of which, (which I hope many farmers will do,) this waste may be prevented. The first plan is to make a roof large enough to contain all the manure made in the year, and put it under cover as it comes out of the stable. But as this would be expensive, it would not suit all. The second plan is the one recommended by me in the Genesee Farmer, (see "How to kill Elders and improve the Farm,") Vol. 11, No. 11, page 253. This reservoir is easily made by first plowing and pulverizing the surface, where the wash runs out of the barnyard, and hauling it out for manure. It will pay well for the labor. My third plan, "Plougher" (in "The experience of a Young Farmer,") has partly hit, when he hauls his manure out as soon as it is made and plows it in; but this should not be done until the straw is thoroughly incorporated with excremental juices. But he is wide of the mark, when he comes to plowing in dry straw. Green buckwheat, which he condemns so much, is better. I can give my young friend, "Plougher," my experience on this, for fifty years back, from observation, and forty years, from practical farming. One of my neighbors, a clever, nice old man, fifty years ago owned a large farm of as good natural soil, perhaps, as there is in the rich old county of Bucks, Pa., but in some things he was rather over nice, as the sequel has shown. His barn stood on a nice green bank, and you would seldom see straw about it, for the old man considered straw an annoyance; therefore, he hauled it out as it was threshed, and plowed it in. This man had a family of stout sons, who all left him when they grew up; some of them hired themselves to farmers, because the old homestead had become so poor that it would not pay the expense of tillage. I have learned, by practical farming, that plowing in dry straw or dry cornstalks is of very little benefit. Green Farmer.

THE HEN FEVER

It is surprising to witness the workings of this fashionable, we had nearly written *foolish*, fever. The yellow fever and cholera may be more fatal; the "grippe," or broken-bone fever, harder to bear, but the "hen fever" is making the most fools, and engulfing the most money, particularly in New England; and we judge from numerous letters lately received from our friends at the south, that they are getting a touch of it even there. Our orders for Shanghaes, Chittagongs, Cochin-Chinas, Plymouth Rocks, and half a dozen other puffed-up, worthless breeds of fowls, whose strong points of recommendation consist solely of long legs and necks, big heads, bodies meagerly covered with coarse flesh, and as destitute of beauty as the specimen denoted by the cut below, are numerous, but these will all remain unanswered, for we have no idea of being mixed up with the miserable humbug in the hen trade, which is kept alive by a class of papers that might be better employed. The public look to the agricultural press for truth, instead of deception and twaddle.

Breeders who live upon the gullibility of the public, keep this fever alive by means of publications, in such papers as will lend themselves to the *henhussys*, and by poultry books, got up on purpose to assist them to sell their great overgrown, long-legged, crane-necked, big-headed abortions, not one of which is worth half so much to the farmer, as the old stock of Javas, Malays, or their crosses, the Bucks-county and Jersey Blues, which can be bought at a moderate price. We understand, that from $20 to $100 a pair is the asking price of these great poultry breeders, who know no more of the true merits of a fowl, than they do about the henroost of the emperor of China, or the duck pond of the Great Mogul.



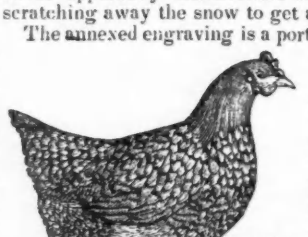
We are sorry to see respectable agricultural papers, like some we might name in Boston, engaged in such small business as puffing these miserable bipeds (feathered or featherless) into notice. We can assure them that their columns could be much better occupied than in such humbugging and *foul* foolery. They may be-praise or be-foul such as they please; but after all is said and done, the best and most profitable for the farmer to keep, is the Dorking, or a good common kind, like the old-fashioned speckled Dominique, the latter of which can be bought for fifty cents to one dollar per pair. Such fowls can pick up their own living in the farmyard; they want neither corseting nor stuffing, they can take care of themselves.—*American Agriculturist.*

There is, perhaps a good deal of "*humbug*" in the hen excitement that has raged so severly in the neighborhood of Boston, and we are sorely mistaken if there is not a little of the same article in the above from the Agriculturist. We know of no greater humbug than for a paper to announce itself as the *peculiar and especial enemy of humbugs*, as some we know of are very fond of doing. We have seen the Shanghaes and Cochin-Chinas, many times, and we really think they bear no more resemblance to the engraving, than the Malays, which are so favorably mentioned. It certainly seems unreasonable to give fifteen or twenty dollars for a pair of fowls; but if any of these breeds are really valuable, this is but a small objection.—They propagate so fast, that this price can be maintained but a short time. But even if a person gave twenty dollars for a pair, we suppose in a year he might repay himself, even if he sold the chickens at a dollar each; or make money the second year, by selling at fifty cents. But if this is an objection to the Cochin-Chinas and Shanghaes, it is equally an objection against the Dorkings. We know of Shanghaes sold here for $5 a pair, and we have known $5 offered in vain for a Dorking cock.

The *coarseness of the flesh* is raised as an objection. On this point we are not prepared to speak, never having killed a ten or twenty dollar fowl, to test the quality of its flesh. Perhaps the editor of the Agriculturist can afford to feast on such expensive luxuries.

We had no desire to be cheated, and certainly were not troubled with the "*hen fever*;" yet we were not willing either to condemn or recommend any variety untried, so we procured the *Shanghaes* and *Cochin-Chinas*, these being the kinds with which the fever appeared to have originated. We have tested them in various ways, and we are not yet prepared to meet out such wholesale condemnation as that contained in the article quoted. Indeed, we think the Shanghaes are superior in some respects to any fowls we have ever kept, and we have had the Malays, Polands, and Dorkings. For hardiness, (and this is a great point,) we think they are not equalled. We have never lost a chick, from any disease, though we have been singularly unfortunate in raising chickens this season. In two cases where one Shanghae chicken was hatched with eight or nine Polands and Dorkings, the Shanghae was the only one we succeeded in raising. On cold mornings, while other fowls appear affected by the cold, and show an unwillingness to leave the house, the Shanghaes are running about apparently unconcerned about the weather, scratching away the snow to get at the ground.

The annexed engraving is a portrait of a Shanghae hen we have, and the artist has succeeded in making it so correct that several who saw it, and who had seen the hen, readily recognized it. Now we ask, what resemblance is there between this fowl and the long-legged caricature in the Agriculturist's article. Is it not the greatest of "*humbugs*" to represent this breed of fowls by such a picture? What sense is there in calling such fowls "overgrown, long-legged, crane-necked, big-headed abortions?"



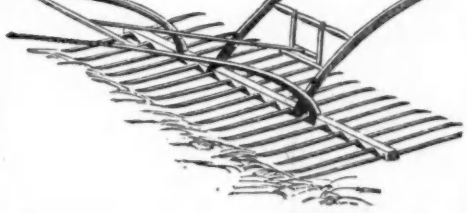
If it is right and proper to give ten times the worth of common cattle for a breed supposed to be superior, where is the folly in giving ten times the price of common fowls for an improved kind? Some men that strain at a $10 "rooster," can swallow a $500 "Durham bull." We have no fowls to sell; but if, after another year's trial, the Shanghaes prove as good as we have some reason to think they will, we shall be able to supply our friends with these fowls as cheap as they wish. We have tried various experiments as to the amount of food consumed by the various kinds, and after further trial may state the results.

Inquiries and Answers.

HORSE RAKES.

MESSRS. EDITORS :—Permit a subscriber to ask you, or some one else, through your paper, for the best plan for a Hay Rake. We have some two kinds of Horse Rakes in this country ; one is a revolving rake, a patent concern, that will not work at all ; the other is a straight piece of timber with teeth in one side, and has handles, and is operated by fastening a rope or chain to each end and hitching the horse to the chain in the centre, then go ahead till it gets full, then stop the horse, pull the rake from under the hay, lift over and go on again. Now this species of rake is intolerable, though there is a number of them used here. The revolving rake, either owing to the construction of it, or some other cause, will not operate at all. The Right was sold to a wagon maker in this county, and he manufactured one only, and that will not operate. You will confer a favor on one of your subscribers, at least, by giving some directions about constructing a good hay rake. There are numbers of your subscribers here that will be grateful to you for such information. Agriculture on any systematic plan is scarcely known in this township, you may judge from the fact that there is but one agricultural paper taken here. A WESTERN CLODHOPPER.—*Washington Co., Ia.*, 1850.

The horse-rake, so well and so favorably known in many parts of the country, "holds nearly the same relation to the common hand-rake, in saving labor, as the plow and cultivator bear to the spade and hoe." The amount of work it will perform with a single horse and driver, may be easily estimated by any one, when it is stated that a strip of hay on the ground, ten feet wide, may be raked up into winrows as fast as the horse can walk ; that is, if the horse travels three miles an hour, more than three acres will be raked up in that time, or at the rate of twenty-four acres per day. The only labor in unloading each rakeful of hay, is a slight lifting of the handles, which causes the teeth and handles to make a semi-revolution, and drop the hay without the least stopping or delay. The rapidity with which a large field of hay may be secured from a threatning storm is one of its greatest advantages.



The engraving is a representation of *Wilcox's Premium Revolving Horse-Rake.* There are several others in use, but all constructed somewhat upon the same principle. Price, from $7,50 to $8,50.

A good horse-rake is also now in use, called the *Spring-Tooth Horse-Rake.* It is light, and may be carried by one man all about the farm. The elasticity of the teeth prevents their breaking or fastening to any obstruction with which they may chance to come in contact. They operate very well on rough or stony ground, and are first rate for raking wheat stubble, and thus gleaning what would otherwise be wasted. From one to two bushels to the acre is often secured in this way, and one man with this rake can glean twenty acres a day. The construction of this rake may be seen by the next engraving.

The rake, as usually made, has a head about nine feet long, and from twenty to twenty-four elastic wire teeth. It does not revolve, but is raised over the winrow with ease and facility, without stopping the horse ; the whole rake weighing only about sixty pounds, and the thills being upheld by the horse, the holder has only to lift one end of the rake by the handles, and the advance motion of the horse will have carried it over the winrow while the holder can lift it up and down properly. The holder bears down on the handles more or less, according to the size of the winrow he wishes to collect, and leaves the winrow when and where he pleases, by quickly raising the handles, as before stated. Price, $8.

CULTIVATION OF THE CRANBERRY.

MESSRS. EDITORS :—Some of the members of my family have recently become interested in the cultivation of the Cranberry, and, as a consequence, are looking for light on the subject. Can you give any information as to the *modus operandi?* E. GUYER.

We know but little about the cultivation of the cranberry. Massachusetts is the only State that we know of where the cranberry is cultivated, and the statements we have seen of the manner and success, are very contradictory. The best we can find on the subject is in *Cole's Fruit Book*, from which we make the following extracts :

"CULTURE ON WET LANDS.—Nearly all the cranberries of spontaneous production are found on low, wet lands, that are flooded a part of the season. Many and various experiments have been made to improve the natural cranberry meadows. The most successful management is by applying sand as a dressing, and that from the sea-shore is best. And it may be inferred that salt is useful, from the cranberry growing on salt marshes, which we have noticed in several instances in Maine. One writer on this subject says that the cranberry grows well in sand and water. Prepare a bog meadow for cranberries by plowing, if convenient, and applying about two inches of sand to the surface, and set the vines in small sods, in rows two feet apart, and twelve or fifteen inches in the rows, and they will soon spread over the land, and yield a full crop.

"Cranberries on wet lands are greatly improved by flooding ; and sometimes the flooding is continued till late in spring, say the first of May or later, in order to retard blossoming, lest the blossoms should be killed by frost. As frosts are very destructive, some have meadows so planned that they can be flooded when a cold night is at hand.

"CULTURE ON HIGH LAND.—Much may doubtless be done to advantage on high land. We have seen the cranberry starting spontaneously on very hard, tolerably moist grass upland, and spreading rapidly, yielding good fruit. We saw fine cranberries of natural growth in a field, close by which the owner was reaping a good crop of barley. We examined the soil, and it was dry and sandy, with a layer of shallow vegetable mold at the surface; yet apparently wet in spring, from its level situation. Where a gravelly knoll had been reduced, for a road, we saw excellent cranberries, of spontaneous production, on dry, hard, and poor soil. On another spot, we saw fine fruit by the roadside, on a very poor, dry, hard soil.

"With these cases of good crops under every disadvantage, it would be surprising if cranberries should not grow well on high land, under good culture.—FOWLER thinks they will not endure the heat of summer, nor cold of winter, on dry land. He manures with peat or mud, in winter protects plants and fruits with evergreens, and has fine crops.

"In raising on high land, it would be well to select rather moist tillage, and use peat and muck for manure, which is their natural soil. We think that a black, moist, sandy loam would be best. It would be well to make experiments in the use of salt and other manure. Those plants that naturally grow on high land, would, doubtless, be better for this purpose.

"Natural meadows yield 100 to 200 bushels to the acre—100 is most common. By cultivation, in some instances, the yield has been at the rate of 200 to 300. With a rake, a hand will generally gather 15 to 20 bushels in a day. More experience is necessary to show a profit by high land culture, and the most successful mode; also the best mode of improving low lands. By setting thick, in transplanting, a good crop will be obtained sooner; and vines transplanted with sods will be the surest.

TO RAISE WATER BY THE SYPHON.

MESSRS. EDITORS:—Seeing in my "Farmer" for November, your letter of inquiry from JOSEPH BRIGGS, of Willet, N. Y., respecting Syphons, together with the answer of the editor, I take the liberty of offering Mr. B. the result of my experience in the Syphon line.

I have one in successful operation under the following circumstances. Water is conveyed to the house, a distance of sixty-six rods, over a ridge of land sixteen feet high, in half inch lead pipe, No. 1. It is discharged four feet lower than the surface of the water in the spring, and at the rate of eighteen gallons per hour. The pipe is thin, and had to be soldered in seven or eight places. I had a vast deal of trouble and tribulation with it before I got it tight, but it now works so beautifully, that I am satisfied. The whole question turns on this point. Syphons will continue to work, provided they are perfectly tight, and that there is a moderate amount of fall from the surface of the water in the well to the place of delivery. Water is raised in a Syphon on the same principle that it is in the suction pump, and may be elevated to the same height, to wit, thirty-two feet. The *objection* to raising it very high in a Syphon is that air separates from water when thus raised, and the higher it is drawn the more. It is essential that there should be sufficient current to carry out this air as fast as it is evolved, otherwise it would accumulate and stop the water. Four feet of fall answers the purpose in my case, but I do not believe that much less than that would do. The amount of fall required depends, of course, on the length of the Syphon.

Small beads of air issue from my pipe along with the water every minute or two, to ascertain the quantity of which, I collected them by means of a bottle of water and funnel inverted over the mouth of the pipe in the tub, and found the quantity to be one-half pint in twenty-four hours, or the bulk of one ounce of water to every fifty-four gallons.

I at first constructed, at a cost of some money and a great deal of labor, an apparatus similar to that described in Ewbanks' Hydraulics, for taking out the air at the summit, but I found it entirely unnecessary, nay worse than useless, and I have taken it out and have now only a plain pipe.

At one time despairing of getting the Syphon to work, I procured a *ram* and applied it, but the supply of water not being sufficient to keep it going, I made another examination of the places where the pipe was joined together, and fortunately discovered the cause of all the trouble I had had, which was an imperfection in the soldering; as soon as that was remedied, I had no further use for the ram.

With your permission I will make the following suggestions. If you do not wish to convey the water more than thirty rods, and if you have six feet or more of fall, I would recommend to use heavy three-eighths pipe, and if possible have it all in one piece. I think you can procure it so by ordering it from the manufacturer. It will deliver an abundant supply of water for any farm, will cost less and be less liable to get out of order than pipe of larger calibre. You are probably aware that the longer a tube is, the less water will pass through it in a given time and with the same amount of fall. In my case, half inch pipe is not too large. To avoid raising the water, I would dig the ditch four feet deep, or more, at the summit, if the nature of the ground will permit. Then to start it, it would doubtless be a good way to fill it before putting it down, as suggested by the editor of the Farmer, or you can charge it at any time with a common beer pump, which may be obtained at the hardware stores, without the counter fixings, for about twenty shillings. To adapt it to your purpose, you have only to attach about three feet of lead pipe to each end of it and fasten the wooden frame to a piece of plank large enough to stand on. It may be worked either as a suction or force pump, but I prefer the latter. To couple it to the Syphon, make a quill of hard wood, say locust, five inches long, and introduce one end of it into the Syphon and the other into the force pipe: then tie a piece of strong twine from one pipe to the other, leaving it slack in the middle, and then take a large nail and make it taut by twisting it after the manner of an old fashioned saw-strain. I charge my pipe in this way and the operation requires about twenty minutes of hard work. To do it by suction takes longer, and requires that the valves, couplings, &c., should be in perfect order.

As to *testing* the pipe, it must be borne in mind that when a Syphon leaks, water does not escape from it, but air sucks in: it is therefore not easy to detect an imperfection. I would recommend to start it and see if it continues to work. If it does not, you may be certain that it is not sound. A leak, if tolerably large, may be discovered by forcing water in *hard*, but air will enter through a crevice when water can-

not readily be forced out. The pipe might be tested with an air-pump; if a perfect vacuum can be formed, you can rely upon it that it is all right. Do not on any account cover up the pipe till it is proven. O. P. LAIRD.—*Oneida Castle, N. Y., Nov.*, 1850.

TO REMEDY LEAKY ROOFS.

GENTS:—Hoping you, or some of your valuable and experienced correspondents, can suggest some cheap and practicable method of mending up old roofs that from cracks in the shingles, or otherwise have become leaky, I thought best to ask information through your widely circulated journal. I have a roof that has always leaked more or less from bad shingling, and it has defied my efforts, so far, to make it good by driving under shingles, to patch it as is customary in some places. It appears to me that some one knows of some cheap preparation or cement that will effect the object; and if so, those of us who do not know will feel greatly obliged if enlightened. A SUBSCRIBER.—*Schoolcraft, Mich., Nov.*, 1850.

Many are covering the roofs of buildings in this vicinity with pitch and fine gravel. Sheets of tarred paper are first put on the roof, which is covered with hot pitch, and a coating of lake gravel, put on while the pitch is hot. This forms a good roof, and we should think would be durable. It is about as expensive as shingling. We have seen roofs that leaked badly, remedied by putting hot coal tar on the shingles, carefully introducing the tar into all the crevices, and then covering with sand. Two coats put on in this way, we should judge from what we have seen, would prevent all leakage, and make an enduring roof. If a better method is known, we should be glad to publish it.

THE WIRE-WORM.

MESSRS. EDITORS:—I saw in your last number, information solicited as to the best mode of destroying the wire-worm, which makes such fearful work with our crops. I shall not say that I know of the best mode of utterly destroying them; yet I can give my experience, as little as it may be.

My father's farms is so full of them as to renrender useless all efforts to raise corn. I have known my father's corn crop to be entirely destroyed by them. Since I have had the control of it, I had one field that had been used as a meadow for several years. I plowed it in the fall, mistrusting that there were worms in it, though not to such an extent as to injure the crop materially. I plowed late, thinking it would destroy the eggs, if it did not destroy some of the worms, by freezing. I left it so until spring, and then planted it with corn, and I can say it looked fine the first time it was hoed; but all at once it looked yellow, and it was but a short time before half the field was destroyed.

I wish to notice here, that they never, or hardly ever, disturb it until the first plowing and hoeing, and then they go at it in earnest.

I followed the corn with two crops of oats. (The worms will not disturb oats or wheat as soon as they will corn; and if they do, it is not so easily discovered.) After the two oat crops, it was summer-fallowed and sowed to wheat, covering it completely with well-rotted manure, which was harrowed in with the wheat. The manure was drawn out for that purpose, and piled up. The wheat was sown this fall, and the result remains to be determined.

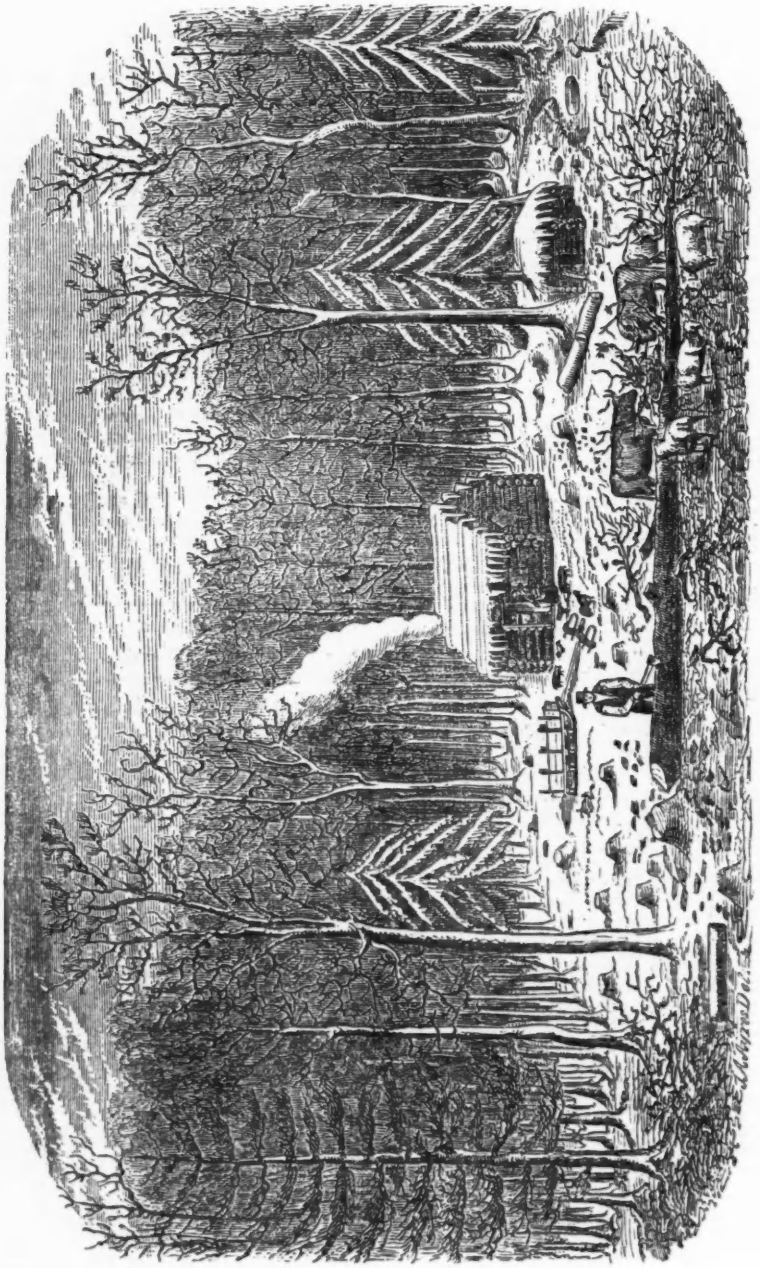
I do not consider the above mode as the right way or the best method of working land, except in the above case. I think the ground ought to be worked after it, and should not lay long if it is liable to be troubled with the worm; and to make up the deficiency for plowing and cropping so often, there must be a good crop of clover plowed in. But to get at the foundation of the matter, the ground should first be ditched or drained. I find even in doing as I have said, that they work into the ground again. They trouble grain most in wet places; and when plowing, they seem to be so thick in these wet places or hollows, that when the ground is seeded only one year, they work from these wet places and keep extending further from these hollows, and the longer the ground is left before being plowed up, the further they will extend: and if these hollows should be ditched, I think there would be no trouble; for they certainly do work in wet ground the most—there is always vegetation enough there to support them. First ditch the land, and then commence with coarse grain, and keep the ground clear, so that there will be nothing for them to live on, until you are satisfied it will be safe to sow wheat. It will run the ground; but sow your wheat, and put on a good coating of well-rotted manure, and you will have good wheat.

I think this is the best mode of applying manure to wheat—that when seeded down the seed catches much better, the wheat getting a top soon enough to prevent the sun from destroying the strength of the manure. A. E. R.—*Trumansburg, N. Y.*, 1850.

THE PIONEER

"Through the deep wilderness, where scarce the sun
Can cast his darts, along the winding path
The Pioneer is treading. In his grasp
Is his keen axe, that wondrous instrument,
That like the talisman, transforms
Deserts to fields and cities. He has left
The home in which his early years were past,
And, led by hope, and full of restless strength,
Has plunged within the forest, there to plant
His destiny. Beside some rapid stream
He rears his log-built cabin. When the chains
Of winter fetter Nature, and no sound
Disturbs the echoes of the dreary woods,
Save when some stem cracks sharply with the frost;
Then merrily rings his axe, and tree on tree
Crushes to the earth; and when the long keen night
Mantles the wilderness in solemn gloom,
He sits beside his ruddy hearth, and hears
The fierce wolf snarling at the cabin door,
Or through the lowly casement sees his eye
Gleam like a burning coal."

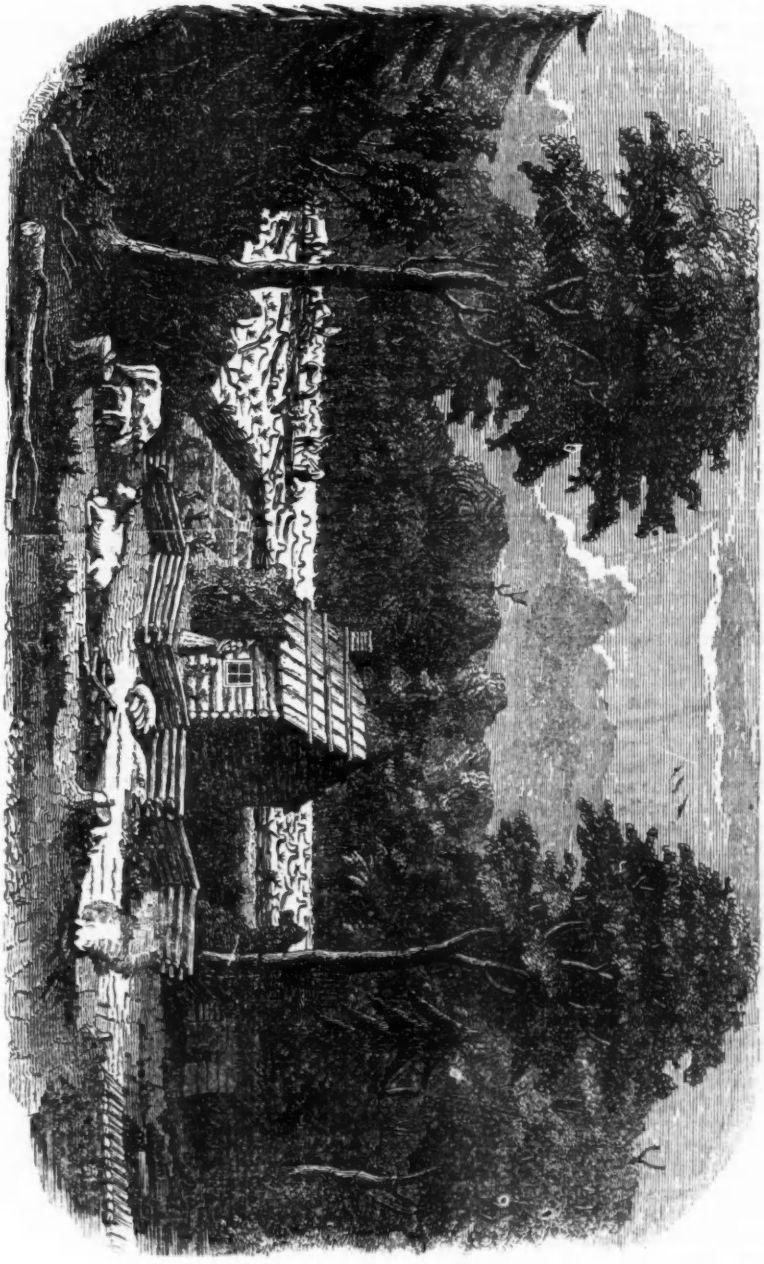
THERE is nothing so surprising to the foreigner, in the history of this country, as the rapidity with which the wilderness is transformed into fertile fields. Villages and cities arise as if by magic. The wolf and the panther are scarcely driven from their haunts, ere they are occupied by a teeming population. The screech of the owl scarcely dies away before it is succeeded by the scream of the locomotive—the hum of busy life, and the sound of the church-going bell. The secret of this is to be found in the love of independence, as general among our people, as it is honorable. How many young men, unused to toil and privation, have left their homes of comfort to endure the hardships and privations of pioneer life, for the honorable purpose of carving out their fortunes in a new land, and gaining that independence and competence they could not hope for in the land of their birth. But, while the young man, with a strong arm and an unconquerable determination, is prepared to cope with the difficulties of a new settlement, he is generally accompanied by one of more fragile form,



COMMENCING A SETTLEMENT IN THE WILDERNESS.

THE PIONEER has built a rude log house; cold weather came upon him before its completion, and froze the ground, so that he could not mix the straw mortar for his stick chimney, and that is dispensed with. He has taken possession of his new home. The oxen that are browsing, with the cow and three sheep; the two pigs and three fowls that his young wife is feeding from her ric.hed apron; these, with a bed, two chairs, a pot and kettle, and a few other indispensable articles for house-keeping, few and scanty altogether, as may be supposed; for all were brought in upon that ox sled, through an underbrushed woods road: these constitute the bulk of his worldly wealth.

and gentler spirit, who endures privations he dreams not of. With an undying attachment to the husband of her choice, the young wife leaves the home, the friends and tender associations of her youth, to struggle for a home in a new land. She sorely feels the loss of kind and sympathizing friends, whose counsel and kind offices she more than ever needs. But active and laborious duties occupy her mind and hands; and though we fear some of these frail ones fall, crushed under by an undue weight of care and labor, many have the pleasure of seeing their once desert home—the log hut—transformed into a tasteful and elegant abode, and themselves surrounded with the comforts and elegancies of life. Who ever



FIRST SUMMER AT THE SETTLEMENT.

THE PIONEER has now chopped down a few acres, enclosed them with a rail fence in front, and a brush fence on the sides and in the rear. Around the house he has a small spot cleared of the timber, sufficient for a garden; but upon most of the opening he has made, he has only burned the brush; and corn, potatoes, beans, pumpkins, are growing among the logs. He has got a stick chimney added to his house. In the back ground of the picture, a logging bee is in progress. His wife is out, looking to the plants she has been rearing. A log bridge has been thrown across the stream. It is a rugged home in the wilderness as yet, but we have already the earnest of progress and improvement.

knew of a pioneer entering the woods without a partner to share his toils and joys, who did not retreat in disgust, or sink to the degraded level of the savage.

Western New York, particularly that portion known as the Holland Land Purchase, was settled very rapidly, and its history contains much of the romance of pioneer life. We are glad that its history has been written. Mr. O. TURNER has published a history of the Holland Purchase, which might be read by all with profit, and should be preserved by the old settlers and their children, as a memorial of their trials and triumph. It is from this work we take the fine engravings, showing the usual manner of commencing life in the woods.

S. W.'s NOTES FOR THE MONTH.

LIFE IN THE CITY OF NEW YORK.—Get up as soon as you can see in the morning, and go into a corner grocery; there you will have the first reading of a morning paper. The floor is already swept and sanded with clean sea-beach sand. Directly in comes a female for a ready soaked mackerel, or a slice of ham, or a *cotalette* and a loaf for breakfast. When you hear her rich brogue, you will marvel that she demurs not to the extreme high price, which is here charged for each edible, the loaf excepted; but your surprise ceases when you are told that she is only a *sarvant*. "If you want to hear cheapening of prices," says the host, "come in the evening, when the Irish women are buying for themselves." For the next half hour, the shop is full of customers buying a modicum of all sorts for a single breakfast, from a pennyworth of salt or pepper, to bread, butter, and steak. Here are poor windfall apples, sold at 18¾ cts. the half peck, which cost only $1 50 the bbl. from the boats. Ohio grease, call it not butter, 22 cts. a lb., a line or leg of mutton, or a chop, at 12½ cts. a lb., a beef's tongue for 63 cts., and a pair of chickens for 75 cts. There are thousands of families here, in costly brick houses, constructed with iron balconies and all the modern ornaments, who live in this expensive, shiftless manner, without a tub of pork, a cheese, a crock of butter, or a whole ham in the house, to say nothing of a barrel of potatoes or apples. But that which strikes one from the country most painfully, in city life, is the confined, impure air. Here is no yard room fit either for a child to breathe or play in, and how can a child acquire a physical education without pure air, room to play, and grass to fall upon, instead of a stone flag or curb-stone. In the more tidy parts of the town, the sidewalks are washed every morning, in fact half of Biddy's business seems to be swabbing the sidewalks, or running of errands, while another female attends to the *menage* within. But such near neighbors are filth and neatness, that often in the same street you pass in a few moments from clean gutters and well scrubbed flags, to sidewalks fetid and slippery, and gutters of black alkaline mud, giving off an effluvia as invaluable to vegetable life, as it is poisonous to the genus *Homo*. One of the comforts of city life is the ease and cheapness with which you can travel for miles together in the omnipresent omnibus; only one cent for a ferriage, and six cents for a ride, if you please, of almost as many miles. 'Tis true that those stage horses do not trot as fast as an unsophisticated country mare, but then you have the novelty of seeing a constant change of faces at all stopping places, and the comfort of riding, almost without exception, with well dressed, tidy people, more than half of whom are fresh looking females in their best attire.

The influence of California gold in N. Y., at this time, is apparent in many business transactions, and more especially in the increased prices of many articles of luxury, and the avidity with which they are sought. I have been in Wall street, in panic times, when almost every other face looked care-worn and anxious—and in a jobbing house when every five minutes after noon till three o'clock, some agitated, sorrowing man would come in and put the query, "anything over to-day?" At this time such a needy sentence was never uttered in my presence. Instead of thoughtful faces in Wall street, every visage there looked happy, contented, and *unintellectual* enough, as GREELY said our farmers' faces looked at the State Fair. So much for California gold. May we never have cause to exclaim *auri sacra fames!!*

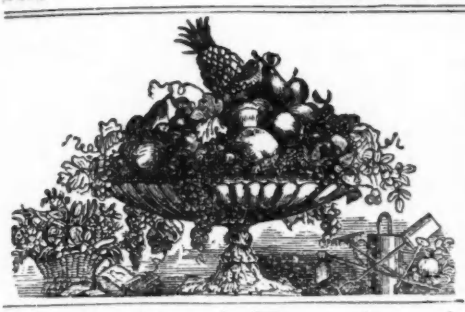
INDIAN CORN.—Twenty years ago very little more Indian Corn was grown by our farmers than sufficed to fat their pork and beef, and to make a little hasty pudding; the little surplus sold to distillers was never threshed before January—no one dreamed that corn was fit to shell until seasoned by the frosts of winter. But, as the French say, "all things are changed now." At this time, 20th November, more than 15,000 bu. of new corn have already been purchased by our distillers from the farmers, and the quantity now coming in daily from Seneca and Wayne, often exceeds 1000 bu., all of which is paid for at 47 cts. per bushel.

The day has at length arrived, when our farmers begin to appreciate the value of a crop of Indian corn, not less for its intrinsic value, than from its certainty to mature, even in adverse seasons. They have also learned, by dear experience, that time and labor, and the use of land, in a half-manured, half-tended field of corn, brings no remuneration; while the best of culture, and a judicious manuring, is bountifully paid for by the redundant crop.

WASTE FIELDS OF UNDRAINED LAND.—An Oneida county farmer, who has just passed through the south towns of Seneca county, says that ditching and more farm stock, are the two great wants, or rather lacks, of the farmers on the great plateau of Varick and Romulus. It was painful to him to see fence rotting around large and arable fields, grown up with aquatic weeds, incapable of producing even grass, in their present unditched state. He seemed to think that throughout one county, there was a paucity of farm stock, without which the grain-bearing pabulum in the soil would soon fail from the lack of nitrogenous matter. In counting the cost of stock raising, few farmers give credit for the manure made, and capable of being made by the growing animal. I once heard a farmer in Rhode Island say, that every hog at a year old, had made seven dollars worth of manure in his pen. *Waterloo, Nov.*, 1850.

TAKE CARE OF THE CATTLE.

MESSRS. EDITORS:—Few realize the importance of providing shelter for live stock during the colds and storms of winter. I hazard the opinion that the saving in food, and the benefit to cattle, will pay the cost of constructing suitable shelter in two years. And then the satisfaction of knowing that the cattle are comfortable, makes the farmer himself comfortable. I never see live stock in a yard, during the hard storms of winter, without feeling pain, and setting down the owner as a shiftless or heartless man. Perhaps in this I am not always correct; but I can't help feeling so. If we endeavor to cheat our land, we cheat ourselves; and if we are cruel to our cattle, neglecting to provide them suitable food and shelter, we are unjust to ourselves; and our punishment is sure and certain, and in proportion to our crime. This is the order of Providence, and it is just. I know of no better way to waste food than to let stock winter out, in which case they will eat a third more food than if well housed, and then be much poorer in the spring. Perhaps a hint on the subject at this season of the year, may not be thrown away. In these remarks I have stated the opinions derived from my own experience. J.



Horticultural Department.

EDITED BY P. BARRY.

One of the most prevalent errors in the management of small plantations of trees in door-yards, or in the vicinity of dwellings, is the pruning or cutting off the side branches to such a height as to destroy, in a great measure, the natural character and symmetry of every individual tree composing the plantation. In our own city, we cannot pass ten rods along any of the old streets occupied with private dwellings, without meeting with an example of this kind. Beautiful little front gardens that might accommodate four or five fine, perfectly grown trees or shrubs, are encumbered with a dozen skeltons so deformed by continual mutilations that without the leaves, it is difficult to determine what they are. In all our older villages, numerous examples of the same kind are to be met with, and it seems to be rapidly spreading. We desire, therefore, to call attention to it, as a point in the management of small gardens and door yards, that stand greatly in need of reform.

The evil originates, in most cases, in the planting. When a man builds a house on a new lot of ground, entirely destitute of trees, if he plant at all, he does so with a view, *above all things*, to *immediate effect ;* and this is all very well, if the after management were conducted properly, but this is very seldom the case. Without looking ten years ahead, he goes on and plants twice or three times the number of trees that his ground can properly accommodate, even at ten years' growth, and he makes no provision for removing a portion to make room for the others. In a few years the branches begin to meet, the view from the windows of the house is probably too much obstructed, and something must be done. It would be too bad to remove any after having planted and cultivated them until they have just attained a respectable size. To wait seven years, or, perhaps, ten years, for a tree to grow, and then mercilessly cut it down or dig it up, is a thing that cannot be done under any circumstances ; but it can be "pruned up," and so all the lower branches that are coming in contact with one another are hewn down. This is the mode of "thinning" to which nearly all our door-yard plantations are subjected. *Evergreens*, even, are not exempted. It is not at all rare to see balsam firs, spruce, &c., &c., "trimmed up" six or eight feet from the ground, making them, to our eyes, perfectly hideous, compared with their natural pyramidal form, clothed with branches from the bottom.

Now we do not deny but that it is perfectly right in planting new grounds to do something for immediate effect. This is an important point in forming all new plantations, large or small. We should no more think of planting a small piece of ground, that we wished to devote to ornamental trees, with the precise number that would cover the space after they had attained full size, than we should of thinning by cutting off the branches. The one course would be little better than the other. Suppose the case of a small front garden, thirty by fifty feet : now, two trees of any kind that grow as large as a horse chestnut, will fill such a space, in twenty years, to the exclusion of everything else ; but for the first seven or eight years, two such trees would occupy but a small portion of the ground, and would afford abundant space for the introduction of several other ornamental plants or shrubs without any detriment to them whatever, and which would add greatly to the beauty of the plot. We would, therefore, plant the permanent trees in the places where they ought to be, taking pains to ascertain the size such trees usually attained, how far their heads usually spread, &c.; and then, in the remainder of the ground, we should plant some flowering shrubs, pillar roses, and such things as we could from time to time remove, as the growth of those we wished to retain required it. And in planting these temporary articles, we should always place them in such a manner that a part can be removed before the whole. Two may be planted and remain for three or four years, where only one afterwards would be required. In some cases, where shelter is an important point aimed at in planting front gardens, twice, or even three times, the number of trees can be planted, and at the end of five or six years be thinned out. All door-yard trees should be considered as intended for ornament, and hence it is absolutely necessary that they be not constrained or mutilated in their growth. Their branches should have ample room to spread in the natural way. All pines, firs, larches, &c., should be branched from the ground. In this form alone do they show their natural grandeur. Other trees may be pruned to different heights, from four feet to eight, in small places. Unless where some particular object may render it necessary, no trees should be pruned above seven or eight feet, and then the heads should have full scope.

We see another error frequently committed in very small places, and that is, planting a tree with a wide spreading head where there is no room for it, say between the front of the house and the street, in ten or twelve feet of space. Trees with spreading heads, such as the horse chestnut, ailanthus, maple, or elm, are quite inappropriate for such small places, and will be continually in the way, getting their branches cut off for venturing to go where they are not wanted. The proper subjects for such places are those with compact heads, like the European mountain ash ; or pyramidal, like the firs. A tree should never be planted for ornament where it cannot fully develop its natural character. In very small places in front of street houses, a climbing rose, trained on a tasteful trellis, is a much more ornamental screen than a tree, and a flowering shrub of some sort that will bear cutting, if necessary, may be planted to fill up. No matter when, or what we plant, we ought to consider well the appropriateness of the subject for the place where it is to be planted. The man who has half an acre to plant or embellish, can plant a very different class of trees from the one who has only a rod or two. As a general thing, people are too apt to plant what their neighbor has planted, whether their cir-

cumstances be alike or not. To plant tastefully and properly, we must exercise, in all respects, a careful discrimination. We cannot here treat the subject so minutely as we could wish, but we trust it will not be altogether in vain that we have pointed out some prevalent errors on the subject, and made a few suggestions as to which we consider the proper mode of proceeding.

We have thought it might be well to add a few measurements indicating the rate of growth of a few of the trees most commonly planted. These measurements are of specimens in our own grounds, planted in 1840 and '41, of the ordinary size of such trees when taken from the nursery.

Horse Chestnuts—Fifteen feet high, trunk twenty inches in circumference near the ground, and head ten feet wide.

Mountain Ash—Twenty feet high, trunk two feet in circumference, and head twelve feet wide.

European Linden—Twenty-five feet high, trunk two feet in circumference near the ground, and head eighteen feet wide.

Ailanthus—Twenty-five to thirty feet high, trunk two and a half feet in circumference, and head fifteen feet wide.

Laburnum—Eighteen feet high, trunk fifteen inches in circumference, and head five feet wide.

Larch—Twenty-five to thirty feet high, trunk, at the ground, two feet in circumference, lower branches twenty feet wide.

Pawlonia—Four years growth in all—Eighteen feet high, trunk seven feet high and eighteen inches in circumference, and head twelve feet wide.

Norway Spruce—Twenty to twenty-five feet high, trunk twenty to twenty-four inches in circumference near the ground, and width of lower branches sixteen to twenty feet.

Balsam Fir—Twenty to twenty-five feet high, trunk sixteen to eighteen inches in circumference at the ground, and width of lower branches ten to fifteen feet.

European Silver Fir—Planted ten years ago, then five feet high; now twenty feet high, trunk, near the ground, two feet in circumference, and width of lower branches ten feet.

The *Weeping Willow* and *Snowy Abele* would nearly, if not quite, double in growth any we have noticed.

DAHLIAS

THE past season, on the whole, was highly favorable for the dahlias. The early part was rather moist, inducing a rank growth and but few good flowers; but October was dry and clear, without frost, and brought them out in great perfection. We have never seen so many varieties, and so good, exhibited here before, as at our last autumnal show; and the attention given to a critical examination of their individual characters and qualities, by many of our citizens, showed the existence and growth of a discriminating taste. Until very lately, with us, a dahlia was but a dahlia. Most of those who planted them in their garden, were well enough pleased to have a flower approaching double, if it had a color to their taste; but now we find that the qualities that make up a perfect flower begin to be looked into, and novelties, in the way of rare and striking combinations of colors, are, in a measure, appreciated. Every year this taste must improve, provided our professional growers take care to bring out only first rate flowers, and discard everything that is poor or indifferent. We look upon a poor dahlia as one of the meanest floral productions that can be presented; whilst a really good one, is one of the proudest triumphs of modern floricultural skill.

In looking over the English papers, we gather from the accounts of the dahlia shows of 1850, that the following varieties have been the most successful in obtaining prizes:

Duke of Wellington,	Essex Triumph,
Thames Bank Hero,	Mr. Seldon,
Fearless,	Toison d'Or,
Magnificent,	Snowflake,
Richard Cobden,	Scarlet Gem,
Mrs. Seldon,	Queen of Primroses,
Beauty of Hastings,	Keepsake,
Purple Standard,	Flying Dutchman,
Yellow Standard,	Princess Radziwill,
Queen of the Isles,	Shylock,

Black Prince.

Reports all speak well for the advance of the fancy varieties to perfection. It is expected they will soon be as unique in this respect, as ordinary varieties. Among the new sorts of these, *Elizabeth*, *Comte de Flanders*, *Miss Blackmore*, *Emperor de Maroc*, *Striata Perfecta*, *Jenny Lind*, *Flying Dutchman*, and *Unique*, seem to have taken the lead.

In our own collection, we have noted a few that, considering all their properties, can hardly be surpassed. In estimating the value of a dahlia, we take into strict account its free or shy blooming. If a dahlia be ever so good, as to form and color of flower, and yet a *shy* bloomer, we discard it; for in our climate, we *must* have free bloomers, or the chances are ten to one, in most seasons, that we shall not get a flower at all.

Audibert—Golden yellow, very large.

Baron de Morelle—Pale blush, marked with lilac, very large and perfect. Did not see a poor flower during the season of about three months. We noted it as the best we have seen of its color.

Bunte von Estenthall—Deep crimson, richly shaded with bronze and purple.

Belle de St. Lawrence—Blush broadly tipped with deep purple.

Delight—White, tipped with deep purple.

Faure de St. Hilaire—Small, very globular, a delicate fawn color. Very regular and pretty, but too apt to have an open center.

Furst Wolkonsky—Very large, a rich, dark, velvety crimson.

Grafen Hohenthall—White, lightly tipped with lilac.

Jo Triumphant—Clear, beautiful lilac.

Liebliche von Elstenthall—Very striking and beautiful—primrose yellow tipped with white, like *Florence Dombey*.

Lass of Clarendon—Creamy white.

Indispensable White—Pure white, very large.

Isis—Lemon yellow, tipped with bronze.

Norman Hero—Scarlet, with a crimson shade—very large.

Pfarrar Kraus—Dark claret.

Prince of Cobourg—Purplish crimson.

Reine d'Or—Golden yellow, lightly edged with red.

Princess Alice—White.

Princess Radziwill—White ground, deeply edged and laced with purple.

Sir E. Antrobus—Fiery crimson.

Toison d'Or—Buff, beautiful.

Triomph de Meaux—Buff, shaded with salmon.

Triomph Magdebury—Scarlet, tipped with white—very showy.

William Sedelazck—Small and globular, purplish lilac—a wonderfully profuse bloomer.

Wunder von Tattendorf—A magnificent show flower, scarlet, shaded with bronze.

Here we have twenty-five varieties that, taken as free bloomers and good flowers, may be safely recommended. We might go on and add twenty-five more, perhaps, as good. Indeed, if some other persons were called on to select twenty-five from the same collection, they would probably select different ones, in many cases. Some are comparatively old, being several years in cultivation, like *Indispensable White, Princess Alice*, and *Sir E. Antrobus*, but we see none, in their way, superior. None are quite new, though several, as *Toison d'Or, Princess Radziwill*, and some others, are among the first prize dahlias of 1850 in England, as will be seen by the list we have given.

THE PLUM AS A PYRAMIDAL TREE.

We find the following article, on this subject, in the "Gardener's Chronicle," (London,) no doubt from the pen of Mr. Rivers. We look upon root pruning as destined to be a great aid in adapting trees to small gardens. During the past summer, in August, at a dry time, when growth was nearly suspended, we root-pruned some pyramidal cherry trees that bid fair to exceed the bounds allotted to them. We cut them so short that their leaves flagged, as a pot plant suffering from drought; but we gave them a good watering, which set all right. There was no more wood made during the season, but fruit-buds were developed profusely. We have served many of our specimen plum trees the same way, and thus hope not only to hasten their bearing, but greatly diminish the extent of surface which our specimens would otherwise cover. It can be done at any time during the winter. The article quoted below, explains the operation as clearly as words can do it.

"The Plum as a Pyramidal Tree.—For some few years I have amused myself by forming my plum trees into pyramids, feeling convinced that no other mode of cultivating our hardy fruits is so eligible for small gardens. I was induced to take extra pains, on account of observing that our neighbours the French, so famous in their cultivation of pyramids, failed to a certain extent with the plum; as their trees, I observed, on being pruned to that shape made too vigorous shoots, and were inclined to gum. They do not know the value of root-pruning, and will not listen to it; I do, and therefore felt some hope of success. At first I commenced to root-prune once in two or three years, but I soon found that was not enough, for the plum makes roots so rapidly that it is difficult to check it: I have now, therefore, for the last three years root-pruned annually, early in autumn. My success is perfect; this I have generally done in September, soon after gathering the fruit, but this year not having any fruit, and awakened by your article on 'Summer Root-Pruning,' given in *Gardeners' Chronicle* in July, I operated on them in August; the trees almost immediately went to rest, and are now pictures of forthcoming fruitfulness. The operation is so simple, that any one may exercise it without any fear of failure. Let me attempt to describe it; and yet how irksome it is to have to employ so many words about what one can tell and do in a few minutes. Open a circular trench, 18 inches deep (for the plum does not root deeply) round by one tree 18 inches from its stem; for the first two or three years this distance will be enough; increase the diameter of the circle as years roll on, but very slowly, not more than from 1 to 2 inches in a year, and cut off every root and fibre with a sharp knife. This operation may be likened to the manner in which old folks talk of the way in which they used to cut the hair of poor workhouse boys, viz., place a basin on the boy's head and trim off the hair round its rim—in short, the 'workhouse cut;' then when your roots are so trimed, introduce a spade under one side of the tree and heave it over, so as not to leave a single tap root. Fill in the mould; if the weather is dry give the tree a soaking of water, and it is finished. If your soil is poor, give a top-dressing of manure, to be washed in by winter rains. The following summer, pinch off the ends, in June, of any shoots that seem inclined to push more than 4 inches, and thin those out with the knife that are too crowded; the result will be a handsome and highly prolific pyramidal tree. Plums are not yet half appreciated; for, owing to the introduction of many new and good varieties they are in season from July till November, for the dessert and for the kitchen."

EXHIBITION OF FRUITS.

An exhibition of Fruits will be held in Rochester, on Saturday, the 11th of January. Specimens can be brought, or sent, to Mr. Fogg's Seed store, on Front street. The opportunity will be excellent for a comparison of all our best winter varieties; and as most people, at that season of the year, enjoy comparative leisure, and as the roads will most likely be good, there will be every inducement for all who are interested in fruit culture, to attend. We expect to see visitors and contributors from Buffalo and other neighboring towns, and to have a highly interesting time.

The annual meeting of the State Society, will be held at Albany immediately after, and specimens from our exhibition will be forwarded. James H. Watts, Esq., has kindly volunteered his services to attend to the packing and forwarding of fruits designed to be shown at the exhibition of the State Society.

ACKNOWLEDGEMENTS.

We are indebted to R. G. Pardee, Esq., of Palmyra, for a package of seeds marked "Polk Squash," one foot long, four inches in diameter, dark green when ripe—very superior. A package of "Hair's New Mammoth Dwarf Marrow Pea;" and one of "Celery Lettuce."

—To E. A. McKay, Esq., of Naples, N. Y., for beautiful specimens of the *Baily Sweet* apple, measuring twelve inches in circumference, and of the richest crimson color. The *quality*, too, is quite equal to the size and beauty. Mr. McKay also sends us a box of Isabella grapes from his vineyard; bunches large, fruit well ripened and fine. We visited this vineyard last summer and found it in the best possible condition.

—To W.D. Brinkle, M. D., Philadelphia, for a copy of the Annual Report of the Pennsylvania Horticultural Society.

—To Hon. M. P. Wilder, of Boston, chairman of the Massachusetts Committee on the Great Industrial Exhibition, for a document containing the regulations for forwarding articles from that State.

—To Jesse Storrs, Esq., of Marathon, N. Y., for a box of the *Munson Sweet* apple, to be presented at the exhibition on the 11th inst.

—To W. G. Verplanck, of Geneva, and A. Mackie, of Clyde, for specimens of the *Sheldon* pear. We shall have something to say of this variety by and by.

TRELLISES FOR CLIMBING OR TWINING SHRUBS AND PLANTS.

We are frequently astonished at the degree of beauty produced by the simplest contrivances, under the direction of a little taste. We have seen little log cabins transformed into masses of foliage and flowers, with scarlet runners and morning glorys (convolvulus) trained up on simple strings, costing not more, perhaps, than an hour's labor. Without these flowers, such a dwelling would indicate a tasteless and comfortless occupant; but with them, it appears cheerful and pleasant and tasteful. There is much that is graceful and beautiful about climbing plants, and they grow with such rapidity, and are so easily trained into the most fanciful forms, that they are among the most useful material for the embellishment of cottages and small gardens. Only imagine an unpretending cottage or farm-house half buried in festoons and garlands of honeysuckles, clematises, and roses, and in the front garden two or three, or even one pillar of roses, or fanciful trellis of some fine climber; and then imagine the same cottage naked as it came from the hands of the builder, and you have a contrast that illustrates, in some degree, what any man can do with a few simple climbers, for the embellishment of his dwelling. We frequently see in gardens some very clumsy, awkward affairs, made by some skillful carpenter, no doubt, as supports for climbers. There are many of them around this very city of ours, of shapes we could not describe, and as ugly, we are very sure, as can be found elsewhere; any one of them, including the white paint that has been lavished on it, would certainly cost as much as half a dozen vastly more tasteful and beautiful. We have seen very neat supports, like figure 1, for cobeas, maurandias, &c., made by taking young cedars or pines two or three inches in diameter and six to eight feet high, stripping off the foliage, and leaving a foot of the lower branches and less of the upper ones, so that a string or wire carried from top to bottom all around, made a pyramid. About two feet of the bottom was cleared of branches entirely, and sunk in the ground. Three or four of these placed near each other, with the strings or wires carried from the top of one to the other, make pretty festoons with rapid growing, luxuriant plants.

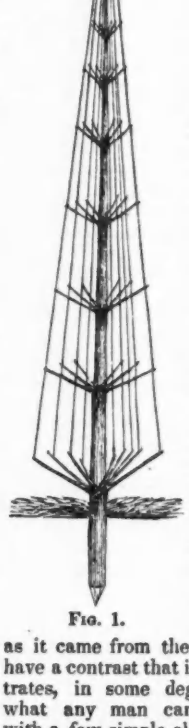


Fig. 1.

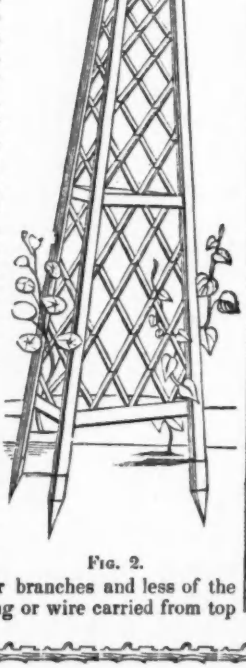


Fig. 2.

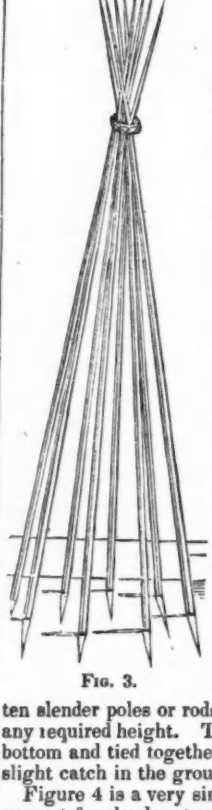


Fig. 3.

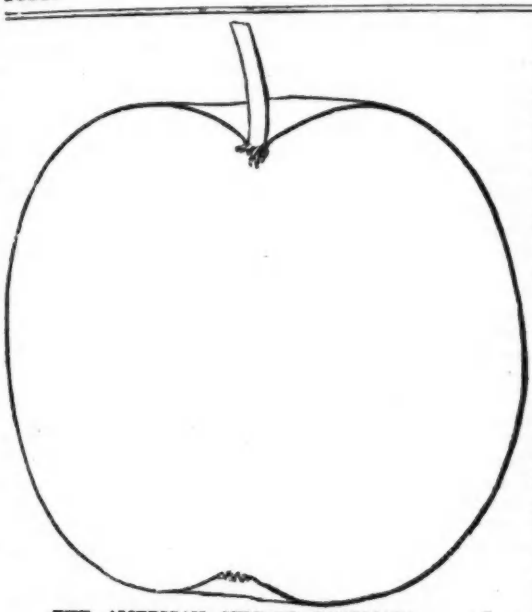
Figure 2 is a very tasteful conical, three side support, made of light strips of timber — if preferred rustic, of saplings with the bark on. It may be six or eight feet high, and should be placed at least two feet in the ground. The plants or seeds intended to cover it, may be set in the center of the space between the feet. It will answer equally well for climbing roses, honeysuckles, cobeas, maurandias, ipomœas, or annuals such as convolvulus or scarlet runners.

Figure 3 is an exceedingly simple pyramidal support, and looks very well. It is simply eight or ten slender poles or rods eight to ten feet, or any required height. They are spread at the bottom and tied together at the top. A very slight catch in the ground will sustain them.

Figure 4 is a very simple and pretty spiral support for slender stemmed climbing plants. It is made of a round piece of wood three or four inches in diameter, and of the height required — say four or five feet. A piece of strong wire is then fastened on one end and wound round in spiral form to the other. At each turn the wire will present the appearance of a ring on each side of the stick. When carried to the other end, it is there fastened and the wire is left between the two ends loose and elastic. If the support be only three or four feet high, it will be sufficient to insert it in the earth eighteen inches to two feet; but if higher, it should be planted in the socket of an iron fork that would be sunk in the ground at least eighteen inches.

Fig. 4.

Any ingenious person of a little taste and a *will*, might contrive many such articles, quite as simple and as ornamental as those we have figured. We have given these by way of drawing attention to the subject; and we have given them at this time particularly, because there are few persons who do not find occasionally, during winter, a leisure hour that might well be devoted to the preparation of some such articles, that might be both useful and ornamental to the garden next summer. Many feel the want of such structures in the summer season, and would gladly prepare them, but their time is then occupied.



THE AMERICAN SUMMER PEARMAIN

To our taste, this has no superior among the apples of its season. It is extensively cultivated in New Jersey, and some Jerseymen in Western New York have it under the name of "*Strawberry*." The tree is a slow grower, with dark, slender, erect shoots. It comes early into bearing, and bears abundantly. Fruit medium size, sometimes large, oblong. Color greenish yellow, nearly covered with broken stripes and spots of red. Stalk three-quarters of an inch long. Calyx in a smooth, even, pretty deep cavity. Flesh yellowish, juicy, very tender and rich; mild acid; usually cracks in falling from the tree. In eating five or six weeks. Few summer apples remain in use through so long a period, and so fine throughout, as this; and we find it equally as desirable for the kitchen as for the table. This and the *Pomme Royal*, or *Dyer*, ripening at the same time, or immediately after, are, in our estimation, the two best late summer and early fall apples we have.

THE CHAUMONTEL PEAR.

We find by experience that this famous fruit cannot be produced in any degree of perfection, except on *warm*, *dry*, and *rich* soils. This season we had several bearing trees, as it happened, all on low ground, rather heavy, and quite damp, and the season, too, was moist. We did not get any fruit worth gathering, although some four or five trees were loaded.

Those who have this variety in their collection will therefore do well to see that it is supplied with a soil possessing these essential qualities. If they do not, we can only assure them of a miserable harvest. For an early winter variety it has probably no superior. The tree is vigorous and fruitful; bears quite young, and the fruit ripens with as little care as *Fall Pippins*. It is certainly worthy of a little special pains in its culture.

Those who have Lima beans not sufficiently ripened for seed, will find them excellent for the table.

STRAWBERRIES.

Mr. Editor:—In the spring of 1849, I procured plants enough to set four rows, of twenty-six feet in length, the rows a little over a foot apart, and the plants nearly a foot apart in the rows. They were of two different kinds—one a large red berry, supposed to be Hovey's Seedling, originally from Col. Young's nursery; the other a small white berry,* cultivated by the late Mr. Strachan, of Half Moon, and we need no better authority that the article is good.—They were planted on the back part of a large garden which had been planted alternately to corn and potatoes during the ten years I have owned it. The manure that has been used, was common barn-yard manure; the soil a clay loam. No manure was used at the time of planting the bed, nor since. They were designed to be kept in rows, but the runners soon getting the mastery, I let them take their own course, merely pulling out the weeds by hand. This spring the edges of the bed were trimmed to six feet in width, by twenty-eight feet long, from which was picked twenty-four quarts that were taken to the house and measured, to say nothing of those that were eaten from the vines by birds and bipeds. Beat this who can.—Isaac Clement.—*Half Moon*, 1850.

*Probably the *White Alpine*.—Ed.

SMALL EXPERIMENTS.

I take particular pleasure in making experiments in my garden, and you are at liberty to use the following results if it will interest your readers:

1st. My experiments with ten selected kinds of peas, resulted in favor of the *Early Emperor* as the best very early pea; and in *Hair's New Mammoth Dwarf Marrow Pea* as the largest, most productive and richest pea of all. I obtained the seed from Thorburn, New York.

2d. My experiments with eight kinds of early potatoes, resulted, all things considered, in favor of the *Mercers*. Some kinds were a few days earlier, but not so good quality or so great bearers.

3d. My earliest corn is a white corn, a hybrid from the *Early Canada* and *Early Sweet Corn*. It originated in this county. My earliest *sweet* corn is the *Early Burlington*. But I think decidedly the *best* sweet corn I have ever raised or seen, has a dark purple, smooth berry, (I do not know the name,) brought from New England.

4th. Our "Celery Lettuce" is by far the best I have ever seen. The choicest imported kinds will not compare with it.

5th. Out of the twelve kinds of strawberries, the greatest uniform bearer, and highest flavor of the pistillate plants, is *Burr's New Pine*; of the staminate, a strawberry recently imported from Lord Spencer's garden, in England, which is thought to be the *London Imperial Scarlet*. This will suffice for the present; but more anon. R. G. P.—*Palmyra*, 1850.

Celery is a luxury that too few enjoy. Placed in a box of earth in the cellar, it will keep well till spring, and rather improve by the keeping. *Cauliflower*, too, that have not headed in the garden, if the roots are placed in mould in one corner of the cellar, will head, and furnish a real luxury during the winter months.

Ladies' Department.

HOME-MADE FURNITURE.

HOWEVER much satisfaction some may derive from costly furniture, the production of the cabinet shop, yet, there is far more real pleasure in having articles around us, the work of our own hands, the results of our own skill, or the production of those we love. How we value some article, trifling in itself, perhaps, yet more prized than its weight of gold, because the work of some dear departed one. Let us furnish our homes with the fruits of our own industry, as much as possible, and thus leave behind us, on every side, evidence of our skill. Any one who has money can buy splendid furniture, (and it dont take much wit to get money,) but it is not every one who has the patience and ingenuity to make a pretty chair from an old barrel, or a neat footstool out of a few pieces of board or a useless box. Yet this may be done—we have seen it done—and we have had some little hand in the work. Those who have not tried, will be surprised to find what pretty articles of furniture they can make, almost without cost. The following remarks, with the engravings, are from *Downing's Country Houses:*

"The simplest and cheapest kind of furniture by which an air of taste may be given to a cottage, consists of a plain box or bench, made of boards, by the hands of the master of the dwelling, stuffed with hay, cornhusks, moss, or hair, held in place by a covering of coarse canvass, and covered with chintz by the mistress of the cottage. Seats of all kinds are made at a very trifling cost in this way, so that, with a little ingenuity, a room may, by the aid of a few boards nailed together, a little stuffing and canvass, and a few yards of shilling chintz, be made to produce nearly the same effect as one where the furniture is worth ten times as much. The next step is to add square pillows or cushions to all the benches, seats, or couches, in order that any person sitting upon them may have a support for his back without touching the wall.

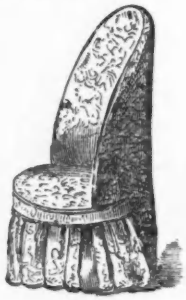


FIG. 1.

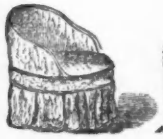


FIG. 2.

FIG. 3.

"Another of the cheapest and simplest seats for a cottage, is the *barrel-chair.* Fig. 1 is a large one, stuffed in the seat and back. Fig. 2 is a low one, for the chimney corner. These chairs are easily made by sawing off a portion of the barrel—nailing on a few boards to form the seat, and leaving part of the staves a little higher than the others, to form the back or arms. To make the high-backed chair, the staves must be *pieced out* a little, as in Fig. 3, the outside or rim of the back being confined in its place by a piece of hoop, neatly applied. The seat and back are stuffed with any cheap material, covered with strong coarse canvass, and covered with chintz.

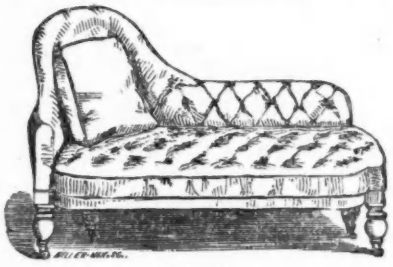


FIG. 4.

Fig. 4 is a cottage couch, of a somewhat superior style, but made in the same manner, and easily produced, when there is a little mechanical ingenuity in the family."

THE DEATH OF THE FLOWERS.

THE following beautiful poem, by BRYANT, many have read, yet it is so beautiful that it should be preserved. We give it in the Farmer, that all our readers may have it in a shape to preserve.

The melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows brown and sere.
Heaped in the hollows of the grove, the withered leaves lie dead;
They rustle to the eddying gust and to the rabbit's tread.
The robin and the wren are flown, and from the shrub the jay,
And from the wood-top calls the crow through all the gloomy day.

Where are the flowers, the fair young flowers, that lately sprung and stood
In brighter light and softer airs, a beauteous sisterhood?
Alas! they all are in their graves; the gentle race of flowers
Are lying in their lowly beds with the fair and good of ours.
The rain is falling where they lie; but the cold November rain
Calls not from out the gloomy earth the lovely ones again.

The wind-flower and the violet, they perished long ago,
And the wild-rose and the orchis died amid the summer glow;
But on the hill the golden-rod, and the aster in the wood.
And the yellow sun-flower by the brook in autumn beauty stood,
Till fell the frost from the clear cold heaven, as falls the plague on men,
And the brightness of their smile was gone from upland glade, and glen.

And now, when comes the calm, mild day, as still such days will come,
To call the squirrel and the bee from out their winter home,
When the sound of dropping nuts is heard, though all the trees are still,
And twinkle in the smoky light the waters of the rill,
The south wind searches for the flowers whose fragrance late he bore,
And sighs to find them in the wood and by the stream no more.

And then I think of one who in her youthful beauty died,
The fair meek blossom that grew up and faded by my side:
In the cold moist earth we laid her when the forest cast the leaf,
And we wept that one so lovely should have a life so brief;
Yet not unmeet it was that one like that young friend of ours,
So gentle, and so beautiful, should perish with the flowers.

Youths' Department.

WONDERS OF VEGETATION.

How important it is to improve every moment of time, the young seldom realize. They look forward to many years of life, and heed not the moments they lose. Few, however, can look back upon the past year without feeling regret for misspent time. It is too late now—a lost moment can never be recovered. But what a glorious time the beginning of a new year presents to make new determinations—to resolve that every minute in the future shall be well employed. See to it, young friends, and in the YOUTH'S DEPARTMENT of the Farmer we will endeavor to furnish material for the profitable employment of a few moments each month. Perhaps we could not better employ the space for a few numbers, than in presenting some of the *wonders of the vegetable world.*

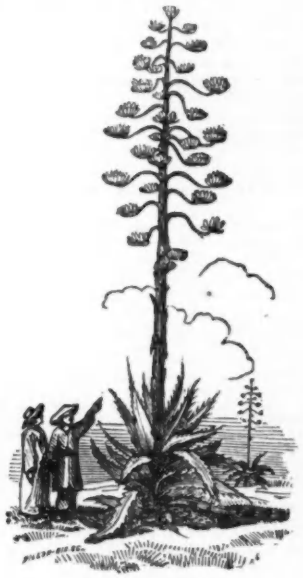
The vegetation which everywhere adorns the surface of the globe, from the moss that covers the weather-worn stone, to the cedar that crowns the mountain, is replete with matter for reflection and admiration. Not a tree that lifts its branches aloft, nor a flower or leaf that expands beneath the sunlight, but has something of habit or of structure—something of form, of fragrance, or of color—to arrest the attention. It is true that early and constant familiarity has a tendency to render us unobservant of that which surrounds us; but that individual must be idle, and ignorant as idle, whose curiosity cannot be awakened by a description of the wonderful mechanism and adaptations of vegetable life.

> "Not a plant, a leaf, a flower, but contains
> A folio volume. We may read, and read,
> And read again, and still find something new—
> Something to please, something to instruct,
> Even in the noisome weed."

REPRODUCTION AND DISPERSION OF PLANTS.

Plants are reproduced by seeds; by tubers, as the potatoe; by runners, as the strawberry; by slips, and some even by single leaves; and to produce others of its kind, seems to be the main object of every plant or tree. First we have the leaf, then the blossom and the seed, ready to produce another of its kind. Increase by seed is the most familiar mode of reproduction, being common to all flowering plants, and these seeds are furnished with sufficient nutriment for the young plant, till its roots have struck into the soil and its leaves expanded into the atmosphere. They are also protected from accident, and though each differently, yet all mysteriously and wonderfully. The chestnut has a compact leathery envelope; the seed of the apple a fleshy covering, enclosing horny cells, in which is the seed; the pea and the bean a pod of parchment. In all of them, the protection against cold, drouth, moisture, and other destructive agencies, is so complete that seeds which have been buried for centuries, have, on being brought to the surface, sprung up into healthy plants; even a crop of wheat has been reared from seeds taken from the hand of an Egyptian mummy more than three thousand years old!

Equally perfect with this protection is the means for their dispersion over the surface of the globe. What could be better adapted for floating from island to island than the cocoa-nut, with its light fibrous coir and woody shell? What more easily caught up by the slightest breath of air, than the seeds of the thistle or dandelion, with their little parachutes of down? Or what more aptly fitted for attachment to the coats of wandering animals than the hooked heads of the teasel and burdock? The farmer well knows how readily a small patch of weeds will scatter their seeds over the whole field.



AGAVE AMERICANA.

The *Agave Americana* is one of the most singular and wonderful of plants. It is known as the "*Great American Aloe*," because resembling the Aloe in its leaves, but it belongs to the pine-apple tribe, and has little in common with the aloes. It is, perhaps, most generally known as the *Century Plant*, as it was supposed to flower only once in a hundred years, but the plant, in favorable circumstances, flowers much earlier than this. When in bloom they present a most interesting spectacle, the stem rising from 30 to 40 feet high, and bearing hundreds of greenish-white flowers on an elegant branched spike. The panicle, or bunch of fresh flowers, is often 15 feet in height, and is, in this respect, without a parallel. The engraving, although the best we could obtain, does not show fairly the beauty of the plant in flower. We saw one in bloom in Europe, and it was the most magnificent spectacle in the vegetable line we ever beheld.

FOR THE BOYS.—Seven classes of company to be avoided: 1st, Those who ridicule their parents or disobey their commands. 2d, Those who profane the Sabbath or scoff at religion. 3d, Those who use profane or filthy language. 4th, Those who are unfaithful, play truant, and waste their time in idleness. 5th, Those that are of a quarrelsome temper, and are apt to get into difficulty with others. 6th, Those who are addicted to lying and stealing. 7th, Those who are of a cruel disposition; who take pleasure in torturing and maiming animals and insects.

IN our travels the coming spring, we shall undoubtedly see many things worthy of notice in our *Youth's Department.* We shall probably give some engravings of scenes we may witness in our sojournings.

Editor's Table.

THE WORLD'S INDUSTRIAL EXHIBITION.—So much interest is felt in the Great World's Fair, to take place in London next spring, that we long since determined to give the readers of the Farmer as full and correct an account as possible. To do this, we shall mingle with the immense crowds of all nations that will there assemble, and review the great contest for ourselves. We rejoice that the "good time" so long "coming" has at length arrived, when the strife between the nations is not for the supremacy of brute force, but the supremacy of intelligence and skill. Chinese, Turks, French, English, and Americans, will there vie with each other for the prize to be awarded superior skill. This assembling of the nations must greatly tend to destroy national pride, ignorance and prejudice, the great source of war. We hope to see many things at the fair, as well as in our travels through the country, an account of which will be interesting and profitable to our readers.

Perhaps nothing at the fair will attract more universal attention than the building now erecting for the exhibition. The materials of which it is to be made, and the mode of construction, is something novel in the art of building. We copy the following graphic sketch from a late number of the *Leeds Mercury*:

We cannot but think that the palace of glass—an unprecedented fabric, to receive the unprecedented Exhibition of the World's Industry in 1851—the daring conception of Mr PAXTON, will itself form one of the most attractive and wonder-exciting features of the Exibition: nay, that it will be almost as fascinating to men's imaginations before they see it, and to their eyes when they see it, as the boundless treasures of the Exhibition itself. Assuming that the strength of this singular edifice has been deemed sufficient by competent architects, as we doubt not it has, the Commissioners have judged well to set aside every other architectural project in its favor. It will form a magnificent and dazzling spectacle, and of course it will give the utmost advantage of light to every article that may be exhibited within it. The reader may be enabled to form some conception of this palace of glass, when we state that it will be 1848 feet in length, that is, more than one-third of a mile—that it will be 408 feet broad—that it will be open from end to end, and that the great centre aisle, running from east to west of the length we have stated, will be 66 feet in height, whilst there will be a transept running from north to south, 408 feet long and 108 feet high, or higher than the nave of the loftiest cathedral in England, and enclosing a row of noble elms now standing in the park, and which will remain untouched. Though different portions will be of different heights, the whole will be under one unbroken ceiling of glass. The area of the edifice will be 753,984 square feet (nearly 18 acres,) and its cubic contents 33,000,000 feet. The exhibiting surface, including galleries, will be 21 acres. The palace will be supported by 3230 iron columns of beautiful design. There will be 900,000 superficial feet of glass, sufficiently strong to resist storm or violence, weighing upwards of 400 tons. The cost of building and maintaining the structure will be £79,800, and if the materials were not to be returned to the contractors, it would be £150,000. The structure will be provided with canvass blinds on the south front and roof, to gaurd against excessive light and heat. Its refreshment rooms will enclose three groves of trees. Ample ventilation will be supplied—there being 5000 superficial feet of ventilators in the transept alone. The architectural form of the palace will be very elegant. It will consist of three stories, the upper ones receding behind the lower; each story to be formed by fluted pillars and arches of iron, with walls of glass, and to be surmounted by an ornamental and frieze architrave. The design of the endless range of arches is very tasteful. The roofs will be nearly flat, but will consist of a series of ridges and valleys, 8 feet wide, so formed as easily to carry off the rain. The whole structure will be so light (in both senses of the word) and airy, that it will look like a work of enchantment. It will not exactly be raised as quickly as Aladdin's palace, but almost, as the shell is to be complete by the 1st of January. If future Arabian Nights' Entertainments should be written, the tale-tellers must flog their lazy imaginations; for the magic of former ages has become the plain matter of fact of the present.

At the Anniversary Meeting of the Mechanics' Institution, of Derby, England, Mr. PAXTON gave the following singular and interesting account of the origin and acceptance of his design.

Mr. PAXTON said, he would commence by stating that, gigantic as the building was, it was conceived and framed by him in a small space of time. He need not, however, remind them that it was not done without a great deal of forethought, aided by the experience he had had in constructing other great buildings. When the six eminent architects and engineers were selected as a committee to choose a design, he (Mr. PAXTON) had no intention of offering one, for he took for granted that something worthy of the occasion and of the nation would be selected by them. When the time approached for the production of plans, there was a discussion in the newspapers as to the design best adapted, and he must say that the first sketch he saw in a number of the *Builder* did not inspire him with any very exhalted notions, or raise any very splendid expectations of the result. It was not until one morning when he was present with his friend Mr. ELLIS, at an early sitting in the House of Commons, that the idea of sending in a design occurred to him. A conversation took place between them with reference to the construction of the new House of Commons, in the course of which he (Mr. PAXTON) observed that he was afraid they would also commit a blunder in the building for the Industrial Exhibition; adding, that he had a notion in his head, and that if he (Mr. ELLIS) would accompany him to the Board of Trade he would ascertain whether it was too late to send in a design. He asked the Executive Committee whether they were so far committed to the plans as to be precluded from receiving another; the reply was, "Certainly not; the specifications will be out in a fortnight, but there is no reason why a clause should not be introduced allowing of the reception of another design." He (Mr. P.) said, "Well, if you will introduce such a clause, I will go home, and in nine days hence I will bring you my plans all complete." No doubt the executive thought him a conceited fellow, and that what he said was nearer akin to romance than to common sense. Well, this was on Friday, the 11th of June. From London he went to the Menai Straits to see the third tube of the Britannia Bridge placed, and on his return to Derby he had to attend to some business at the Board Room, during which, however, his whole mind was devoted to his project; and whilst the business proceeded he sketched his design on a large sheet of blotting-paper. (Applause.) He was sorry he had not the original with him, but the fact was Mrs. PAXTON had taken possession of it, and if they were at all anxious to see it, the only possible way of gratifying their desire was by sending for her to the meeting. (Laughter and applause.) Well, having sketched his design on blotting-paper he sat up all night until he had worked it out to his own satisfaction; and by the aid of his friend Mr. BARLOW, on the 15th, he was enabled to complete the whole of the plans by the Saturday following, on which day he left Rowsley for London. On arriving at the Derby station he met Mr. ROBERT STEPHENSON, a member of the Building Committee, who was also on his way to the Metropolis. Mr. STEPHENSON minutely examined the plans, and became thoroughly engrossed with them, until at length he exclaimed that the design was just the thing, and he only wished it had been submitted to the committee in time. Mr. STEPHENSON, however, laid the plans before the committee, and at first the idea was rather pooh-poohed; but they gradually grew in favor, and by publishing the design in the *Illustrated News*, and shewing the advantage of such an erection over one composed of 15 millions of bricks and other materials, which would have to be removed at a great loss, the committee did in the end reject the abortion of a child of their own, and unanimously recommended his bantling. [Applause.] He was bound to say that he had been treated by the committee with great fairness. Mr. BRUNEL, the author of the great dome he belived, was at first so wedded to his own plan, that he would hardly look at his. Mr. BRUNEL, however, was a gentleman, and a man of fairness, and listened with every attention to all that could be urged in favor of his [Mr. PAXTON'S] plans. As an instance of that gentleman's very creditable conduct he [Mr. P.] would mention that a difficulty presented itself to the committee as to what was to be done with the large trees, and it was gravely suggested that they should be walled in. He [Mr. P.] remarked that he could cover the trees without any difficulty; when Mr. BRUNEL asked, "Do you know their height?" He [Mr. PAXTON] acknowledged that he did not. On the following morning Mr. BRUNEL called at Devonshire House, and gave him the measurement of the trees, which he had taken early that morning; adding, "Although I mean to try to win with my own plan, I will give you all the information I can." [Applause.] Having given this preliminary explanation of the origin and execution of his design, Mr. P. would pass over the question of merit, leaving that to be discussed and decided by others, when the whole shall have been completed.

The engraving of this building with which we intend to supply each subscriber, now (Dec. 12th) nearly completed, will cost us about *five hundred dollars*, and if we are as successful in the remainder of the work, as we have been thus far, it will be at least one of the best wood engravings ever got up in this section of country. It was engraved by MILLER & MIX, of this city.

THE NEW YORK STATE AGRICULTURAL FAIR FOR 1851.—The last State Fair being held at Albany, and the one previous at Syracuse, and it being understood that the next Fair would be located somewhere in Western New York, the citizens of Rochester, have been making some exertions to secure the selection of this city as the place for holding the fair for 1851. Our citizens have very liberally subscribed the necessary funds for the erection of buildings, &c., and intend to present the claims of our city to the consideration of the Society. We know of no good reason why the next fair should not be held here. If so, we hope the time set will not be earlier than the third or fourth week of September, as most of the farmers in this section are busy sowing wheat early in September. We think, too, we can beat the world in a show of fruit, and we are anxious that the fair should be held at a time when we can show the fruits of Western New York in their highest excellense and greatest abundance.

WINTER SHOW OF FRUITS, &c.—The Horticultural Society of the Valley of the Genesee have a winter show of fruits, in this city, on the 11th of January. The annual meeting of the Monroe Agricultural Society will be held on the same day.

TERMS OF THE FARMER.—In consequence of a notice which was not as carefully worded as it should have been, some have misunderstood the terms of the Farmer for the present year. They are the same as last—FIFTY CENTS a year for single copies; *five copies* for $2. being *forty cents each*; and *eight* copies for $3, being *three shillings each*. For the engraving of the *Great Glass House*, we charge nothing, making it a present to our subscribers.

POSTAGE ON BOOKS.—To accommodate those who are entitled to premiums, and to whom we shall have to send books by mail, we have secured a number of nearly all our advertised books, bound with paper covers. The dollar books bound in this way, cost but six shillings, and the six shilling books fifty cents. The postage on these books range from ten to fifteen cents.

WESTERN HORTICULTURAL REVIEW.—This is a new Horticultural Magazine, published at Cincinnati, by JOHN A. WARDER, M. D., Editor and Proprietor. It is beautifully printed, and deserves to be well supported by the fruit-growers of the great west.

SEVERAL pages of communications, and other articles prepared for this number, are crowded out; among them some queries that we shall answer next month.

PREMIUMS FOR 1851!

THE editors of the Genesee Farmer have circulated in premiums, and in other ways, during the past year, over Five Hundred Dollars worth of the best Agricultural Books published in this country. These works, on *Agricultural Chemistry, Geology, Botany, Horticulture, Gardening, Rural Architecture, Farm Economy, the Management of Sheep, Horses, &c., The Treatment of Diseased Animals, &c.*, we believe have exerted, and will continue to exert a very beneficial influence. Their influence is not confined to those who receive them, but is felt by their children, their friends and neighbors. They must increase the knowledge, and consequently the power, the influence and the wealth of those for whose especial benefit we labor. The coming year it is not our intention to decrease, but rather to increase the circulation of these works.—With a view, therefore, to this object, and to extend the circulation and increase the usefulness of the Genesee Farmer, we offer the following liberal premiums to the friends of Rural Improvement who may interest themselves in obtaining us subscribers.

Premiums to Individuals.

1st. TWENTY Dollars, in Agricultural Books, to the person who shall send us the largest number of subscribers, at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2d. FIFTEEN Dollars, in Agricultural Books, to the person who shall send us the second highest list, as above

3d. TEN Dollars, in Agricultural Books, to the person who shall send us the third highest list, as above.

In order to make the circulation of the books more general, and to reward *every one* of the friends of the Farmer for their exertions in its behalf, we will give to those not entitled to any of the above premiums,

1st. To every person who sends us SIXTEEN subscribers, at our club terms of *three shillings each*, Johnston's Lectures on Practical Agriculture, (paper cover) Cole's Disease of Animals, American Fruit Book, or any other good Agricultural work valued at Fifty cents.

2d. To every person sending us TWENTY-FOUR subscribers, as above, Norton's Elements of Scientific Agriculture, Allen's Domestic Animals, Buist's Kitchen Gardener, Johnston's Lectures on Practical Agriculture, (nicely bound,) or any other Agricultural work valued at Seventy-five cents.

3d. To any person ordering THIRTY-TWO copies of the Farmer, The American Farm Book, Thomas' Fruit Culturist, The American Shepherd, or any other good Agricultural work which sells at One Dollar.

4th. For FORTY, Johnston's Agricultural Chemistry, Boussingault's Rural Economy, Downing's Fruits & Fruit Trees of America, or any other book or books valued at One Dollar and Fifty cents.

For larger numbers, books given at about the same proportion

County and Town Premiums.

To aid as much as possible in establishing County and Town Agricultural Libraries, we offer the following premiums, which we hope will aid in the more general establishment of Agricultural Libraries in the Towns and Counties.

1st. We will give an Agricultural Library worth FIFTY DOLLARS, to the County in which the greatest number of copies of the Genesee Farmer is taken by the 16th of April next. This Library to be kept as a County Agricultural Library under the care of the Agricultural Society.

2d. To the Town in which the greatest number of copies is taken, an Agricultural Library worth THIRTY DOLLARS, to be kept as a Town Agricultural Library, under the care of the Town Agricultural Society, if one is established, if not, under the care of some person or persons appointed by the subscribers themselves.

As the above premiums will probably be taken in the State of New York, and as we wish to give our friends in other States an equal chance in the competition, we offer the same premiums to the Counties and Towns OUT OF THE STATE OF NEW YORK, thus:

1st. To the *County out of the State of New York* in which the greatest number of copies of our paper is taken, an Agricultural Library worth FIFTY DOLLARS.

2d. To the *Town out of the State of New York* in which the greatest number is taken, an Agricultural Library worth THIRTY DOLLARS.

INDIVIDUALS will receive the premiums to which they may be entitled, for their individual benefit, as a compensation for their personal exertions, and the number they send will be credited to the Towns and Counties where the papers are sent, so that the premiums to individuals will not at all interfere with the Town and County premiums.

BACK VOLUMES of the Farmer will be furnished, if desired, and counted the same as new subscribers.

☞ That all Post-Masters, Local Agents, and Subscribers, wherever the Farmer circulates, may have a fair and equal chance to obtain the Premiums, *traveling agents, post-riders, residents of Rochester, and all city booksellers* are not included in our offer, except the offer of books for a definite number, (16, 24, 32, &c.)

We shall keep a correct account of the subscribers sent by each person, county and town. In the March and April numbers of the Farmer we will publish a statement, so that all may know the prospect of success, and act accordingly. In the May number we shall announce the premiums.

Libraries and *Books* will be forwarded per order, immediately after the announcement, and persons or societies can select their own books, or leave the selection to us.

☞ Specimen numbers, show-bills, &c., sent to all post-paid applicants. All letters must be paid or free. Subscription money, if properly enclosed, may be mailed at the risk of the publisher.

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The Publisher of the FARMER keeps constantly on hand a large assortment of the most popular and valuable works pertaining to Agriculture, Horticulture, and Rural and Domestic Economy, which will be sold at the lowest cash prices. The names and prices of a portion of the books are annexed:

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Chaptal's Agricultural Chemistry. 50 cents
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Domestic Animals, by R. L. Allen. Cloth, 75 cts.; paper, 50 cts.
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Downing's Landscape Gardening. $1 50.
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Norton's Elements of Scientific Agriculture. 50 cents.
Poultry Book, by Bennett. 75 cents.
Rural Economy, by Boussingault. $1 25.
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Gen. Farmer Office, Rochester, June, 1850. [6-tf]

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ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Domestic Animals, Implements, Fruits, &c.

VOLUME XII, FOR 1851.

DANIEL LEE & JAMES VICK, JR., EDITORS.

P. BARRY, Conductor of Horticultural Department

IN issuing a Prospectus for the TWELFTH Volume of the Genesee Farmer, the Publisher flatters himself that it is too widely known, too extensively circulated, and too well read, to render it necessary to state at length the design of the work. Those who read the Farmer are the best judges of its value, and those unacquainted with it are requested to examine its pages.

We number among our Contributors, hundreds of the best Practical Farmers in the country, and our readers have through our pages, the benefit of their wisdom and experience. No thinking man can read any number we issue, without receiving some useful hint in regard to the management of crops, stock, or the orchard, of more value than the price of the volume. The GENESEE FARMER is by far the cheapest Agricultural Journal published in America. Our TWENTY THOUSAND SUBSCRIBERS place us ahead of all other Agricultural Journals, and enables us to furnish a paper for the trifling sum of *Three or Four Shillings*, equal to any, both in *value* and *beauty*. That we have done this thus far, our friends and readers will bear us witness. But we intend more fully to accomplish this in the volume for 1851. The GENESEE FARMER is truly the *Practical and Scientific Farmer's Own Paper!* It will continue to be edited by the old Editors, assisted by a host of the best practical Farmers, Gardeners and Horticulturists in the country.

The new volume will commence on the 1st of January, 1851. It will be published in the best style, as heretofore—ON HANDSOME and CLEAR TYPE and *superior paper*. The volume will be APPROPRIATELY ILLULTRATED—containing numerous and expensive Engravings of *Farm Buildings, Improved Implements, Domestic Animals, choice Fruits, Flowers, Shrubs, &c* ☞Each number will contain TWENTY-FOUR ROYAL OCTAVO PAGES! making a large and handsome volume of about 300 pages, (with Title Page, Index, &c., suitable for binding,) at the close of the year.

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December, 1849. *Rochester, New York*

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